



## SEQUENCE LISTING

<110> Jakobovits, Robert  
Morrison, Robert Kendall  
Raitano, Arthur B.  
Challita-Eid, Pia M.  
Perez-Villar, Juan J.  
Morrison, Karen Jane Meyrick  
Faris, Mary  
Ge, Wangmao  
Gudas, Jean  
Kanner, Steven B.

<120> Nucleic Acids and Corresponding Proteins  
Named 158P1D7 Useful in the Treatment and Detection of  
Bladder and Other Cancers

<130> 51158-20050.20

<140> US 10/776,773  
<141> 2004-02-10

<150> US 10/280,340  
<151> 2002-10-25

<150> US 10/277,292  
<151> 2002-10-21

<150> US 09/935,430  
<151> 2001-08-22

<150> US 60/446,633  
<151> 2003-02-10

<150> US 60/227,098  
<151> 2000-08-22

<150> US 60/282,739  
<151> 2001-04-10

<160> 113

<170> FastSEQ for Windows Version 4.0

<210> 1  
<211> 231  
<212> DNA  
<213> Homo sapiens

<400> 1  
gatctgataa gctttcaatg ttgcgctcct gacaatgtat tagaagtcct gatggggata 60  
ggactttgca gttacaagga atagggcaga aaggtcctgg aagttgagtg gatggctttg 120  
taatataagg tatcaaacct ggtgctttgg tgggtagttt tagaatggac gtggctcttag 180  
ttgacatgcg actatcattt attgaagatg ttgctgccag atgtaatgat c 231

<210> 2  
<211> 2555  
<212> DNA  
<213> Homo sapiens

<220>  
<221> CDS

<400> 2

2

Asn	Met	Pro	Pro	Gln	Ser	Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro		
235					240					245					250		
cca	ttt	ttt	aaa	gga	agt	ata	ctc	agt	aga	cta	aag	aag	gaa	tct	att	820	
Pro	Phe	Phe	Lys	Gly	Ser	Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile		
				255					260					265			
tgc	cct	act	cca	cca	gtg	tat	gaa	gaa	cat	gag	gat	cct	tca	gga	tca	868	
Cys	Pro	Thr	Pro	Pro	Val	Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser		
			270					275					280				
tta	cat	ctg	gca	gca	aca	tct	tca	ata	aat	gat	agt	cgc	atg	tca	act	916	
Leu	His	Leu	Ala	Ala	Thr	Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr		
			285				290					295					
aag	acc	acg	tcc	att	cta	aaa	cta	ccc	acc	aaa	gca	cca	ggt	ttg	ata	964	
Lys	Thr	Thr	Ser	Ile	Leu	Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile		
	300					305					310						
cct	tat	att	aca	aag	cca	tcc	act	caa	ctt	cca	gga	cct	tac	tgc	cct	1012	
Pro	Tyr	Ile	Thr	Lys	Pro	Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro		
	315				320					325					330		
att	cct	tgt	aac	tgc	aaa	gtc	cta	tcc	cca	tca	gga	ctt	cta	ata	cat	1060	
Ile	Pro	Cys	Asn	Cys	Lys	Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His		
				335					340					345			
tgt	cag	gag	cgc	aac	att	gaa	agc	tta	tca	gat	ctg	aga	cct	cct	ccg	1108	
Cys	Gln	Glu	Arg	Asn	Ile	Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro		
			350					355					360				
caa	aat	cct	aga	aag	ctc	att	cta	gcg	gga	aat	att	att	cac	agt	tta	1156	
Gln	Asn	Pro	Arg	Lys	Leu	Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu		
		365				370						375					
atg	aag	tct	gat	cta	gtg	gaa	tat	ttc	act	ttg	gaa	atg	ctt	cac	ttg	1204	
Met	Lys	Ser	Asp	Leu	Val	Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu		
	380					385					390						
gga	aac	aat	cgt	att	gaa	gtt	ctt	gaa	gaa	gga	tcg	ttt	atg	aac	cta	1252	
Gly	Asn	Asn	Arg	Ile	Glu	Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu		
	395				400					405					410		
acg	aga	tta	caa	aaa	ctc	tat	cta	aat	ggt	aac	cac	ctg	acc	aaa	tta	1300	
Thr	Arg	Leu	Gln	Lys	Leu	Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu		
				415					420					425			
agt	aaa	ggc	atg	ttc	ctt	ggt	ctc	cat	aat	ctt	gaa	tac	tta	tat	ctt	1348	
Ser	Lys	Gly	Met	Phe	Leu	Gly	Leu	His	Asn	Leu	Glu	Tyr	Leu	Tyr	Leu		
			430				435						440				
gaa	tac	aat	gcc	att	aag	gaa	ata	ctg	cca	gga	acc	ttt	aat	cca	atg	1396	
Glu	Tyr	Asn	Ala	Ile	Lys	Glu	Ile	Leu	Pro	Gly	Thr		Asn	Pro	Met		
		445					450					455					
cct	aaa	ctt	aaa	gtc	ctg	tat	tta	aat	aac	aac	ctc	ctc	caa	gtt	tta	1444	
Pro	Lys	Leu	Lys	Val	Leu	Tyr	Leu	Asn	Asn	Asn	Leu	Leu	Gln	Val	Leu		
	460					465					470						
cca	cca	cat	att	ttt	tca	ggg	gtt	cct	cta	act	aag	gta	aat	ctt	aaa	1492	
Pro	Pro	His	Ile	Phe	Ser	Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys		
	475				480					485					490		
aca	aac	cag	ttt	acc	cat	cta	cct	gta	agt	aat	att	ttg	gat	gat	ctt	1540	

Thr	Asn	Gln	Phe	Thr	His	Leu	Pro	Val	Ser	Asn	Ile	Leu	Asp	Asp	Leu		
				495					500					505			
gat	tta	cta	acc	cag	att	gac	ctt	gag	gat	aac	ccc	tgg	gac	tgc	tcc	1588	
Asp	Leu	Leu	Thr	Gln	Ile	Asp	Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Ser		
			510					515					520				
tgt	gac	ctg	gtt	gga	ctg	cag	caa	tgg	ata	caa	aag	tta	agc	aag	aac	1636	
Cys	Asp		Val	Gly	Leu	Gln	Gln	Trp	Ile	Gln	Lys	Leu	Ser	Lys	Asn		
			525					530				535					
aca	gtg	aca	gat	gac	atc	ctc	tgc	act	tcc	ccc	ggg	cat	ctc	gac	aaa	1684	
Thr	Val	Thr	Asp	Asp	Ile	Leu	Cys	Thr	Ser	Pro	Gly	His	Leu	Asp	Lys		
			540				545				550						
aag	gaa	ttg	aaa	gcc	cta	aat	agt	gaa	att	ctc	tgt	cca	ggt	tta	gta	1732	
Lys	Glu	Leu	Lys	Ala	Leu	Asn	Ser	Glu	Ile	Leu	Cys	Pro	Gly	Leu	Val		
						560				565					570		
aat	aac	cca	tcc	atg	cca	aca	cag	act	agt	tac	ctt	atg	gtc	acc	act	1780	
Asn	Asn	Pro	Ser	Met	Pro	Thr	Gln	Thr	Ser	Tyr	Leu	Met	Val	Thr	Thr		
				575					580					585			
cct	gca	aca	aca	aca	aat	acg	gct	gat	act	att	tta	cga	tct	ctt	acg	1828	
Pro	Ala	Thr	Thr	Thr	Asn	Thr	Ala	Asp	Thr	Ile	Leu	Arg	Ser	Leu	Thr		
				590				595					600				
gac	gct	gtg	cca	ctg	tct	gtt	cta	ata	ttg	gga	ctt	ctg	att	atg	ttc	1876	
Asp	Ala	Val	Pro	Leu	Ser	Val	Leu	Ile	Leu	Gly	Leu	Leu	Ile	Met	Phe		
			605				610					615					
atc	act	att	gtt	ttc	tgt	gct	gca	ggg	ata	gtg	gtt	ctt	gtt	ctt	cac	1924	
Ile	Thr	Ile	Val	Phe	Cys	Ala	Ala	Gly	Ile	Val	Val	Leu	Val	Leu	His		
			620				625				630						
cgc	agg	aga	aga	tac	aaa	aag	aaa	caa	gta	gat	gag	caa	atg	aga	gac	1972	
Arg	Arg	Arg	Arg	Tyr	Lys	Lys	Lys	Gln	Val	Asp	Glu	Gln	Met	Arg	Asp		
						640				645					650		
aac	agt	cct	gtg	cat	ctt	cag	tac	agc	atg	tat	ggc	cat	aaa	acc	act	2020	
Asn	Ser	Pro	Val	His	Leu	Gln	Tyr	Ser	Met	Tyr	Gly	His	Lys	Thr	Thr		
				655					660					665			
cat	cac	act	act	gaa	aga	ccc	tct	gcc	tca	ctc	tat	gaa	cag	cac	atg	2068	
His	His	Thr	Thr	Glu	Arg	Pro	Ser	Ala	Ser	Leu	Tyr	Glu	Gln	His	Met		
				670				675					680				
gtg	agc	ccc	atg	gtt	cat	gtc	tat	aga	agt	cca	tcc	ttt	ggt	cca	aag	2116	
Val	Ser	Pro	Met	Val	His	Val	Tyr	Arg	Ser	Pro	Ser	Phe	Gly	Pro	Lys		
				685			690					695					
cat	ctg	gaa	gag	gaa	gaa	gag	agg	aat	gag	aaa	gaa	gga	agt	gat	gca	2164	
His	Leu	Glu	Glu	Glu	Glu	Glu	Arg	Asn	Glu	Lys	Glu	Gly	Ser	Asp	Ala		
							705				710						
aaa	cat	ctc	caa	aga	agt	ctt	ttg	gaa	cag	gaa	aat	cat	tca	cca	ctc	2212	
Lys	His	Leu	Gln	Arg	Ser	Leu	Leu	Glu	Gln	Glu	Asn	His	Ser	Pro	Leu		
						720				725					730		
aca	ggg	tca	aat	atg	aaa	tac	aaa	acc	acg	aac	caa	tca	aca	gaa	ttt	2260	
Thr	Gly	Ser	Asn	Met	Lys	Tyr	Lys	Thr	Thr	Asn	Gln	Ser	Thr	Glu	Phe		
				735					740					745			
tta	tcc	ttc	caa	gat	gcc	agc	tca	ttg	tac	aga	aac	att	tta	gaa	aaa	2308	

Leu	Ser	Phe	Gln	Asp	Ala	Ser	Ser	Leu	Tyr	Arg	Asn	Ile	Leu	Glu	Lys		
			750					755					760				
gaa	agg	gaa	ctt	cag	caa	ctg	gga	atc	aca	gaa	tac	cta	agg	aaa	aac	2356	
Glu	Arg	Glu	Leu	Gln	Gln	Leu	Gly	Ile	Thr	Glu	Tyr	Leu	Arg	Lys	Asn		
		765					770					775					
att	gct	cag	ctc	cag	cct	gat	atg	gag	gca	cat	tat	cct	gga	gcc	cac	2404	
Ile	Ala	Gln	Leu	Gln	Pro	Asp	Met	Glu	Ala	His	Tyr	Pro	Gly	Ala	His		
	780					785					790						
gaa	gag	ctg	aag	tta	atg	gaa	aca	tta	atg	tac	tca	cgt	cca	agg	aag	2452	
Glu	Glu	Leu	Lys	Leu	Met	Glu	Thr	Leu	Met	Tyr	Ser	Arg	Pro	Arg	Lys		
	795				800					805					810		
gta	tta	gtg	gaa	cag	aca	aaa	aat	gag	tat	ttt	gaa	ctt	aaa	gct	aat	2500	
Val	Leu	Val	Glu	Gln	Thr	Lys	Asn	Glu	Tyr	Phe	Glu	Leu	Lys	Ala	Asn		
				815					820					825			
tta	cat	gct	gaa	cct	gac	tat	tta	gaa	gtc	ctg	gag	cag	caa	aca	tag	2548	
Leu	His	Ala	Glu	Pro	Asp	Tyr	Leu	Glu	Val	Leu	Glu	Gln	Gln	Thr	*		
			830					835					840				
atggaga																2555	
<210> 3																	
<211> 841																	
<212> PRT																	
<213> Homo sapiens																	
<400> 3																	
Met	Lys	Leu	Trp	Ile	His	Leu	Phe	Tyr	Ser	Ser	Leu	Leu	Ala	Cys	Ile		
1				5					10					15			
Ser	Leu	His	Ser	Gln	Thr	Pro	Val	Leu	Ser	Ser	Arg	Gly	Ser	Cys	Asp		
			20					25					30				
Ser	Leu	Cys	Asn	Cys	Glu	Glu	Lys	Asp	Gly	Thr	Met	Leu	Ile	Asn	Cys		
		35					40					45					
Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile	Ser	Val	Pro	Pro	Ser		
	50					55					60						
Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly	Leu	Thr	Met	Leu	His		
65					70				75						80		
Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile	Ser	Ile	His	Leu	Gly		
			85					90					95				
Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala	Phe	Asn	Gly	Leu	Gly		
			100					105					110				
Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys		
		115					120					125					
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp		
	130					135					140						
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn		
145					150				155						160		
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro		
			165					170						175			
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly		
			180					185					190				
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly		
		195					200					205					
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys		
	210					215					220						
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser		
225					230					235					240		
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser		
			245						250					255			
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val		

			260					265				270				
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr	
		275					280					285				
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu	
	290					295					300					
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro	
305					310					315					320	
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys	
				325					330					335		
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile	
			340					345					350			
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu	
		355					360					365				
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Asp	Leu	Val	
	370					375					380					
Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu	Gly	Asn	Asn	Arg	Ile	Glu	
385					390					395					400	
Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu	Thr	Arg	Leu	Gln	Lys	Leu	
				405					410					415		
Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu	Ser	Lys	Gly	Met	Phe	Leu	
			420					425					430			
Gly	Leu	His	Asn	Leu	Glu	Tyr	Leu	Tyr	Leu	Glu	Tyr	Asn	Ala	Ile	Lys	
		435					440					445				
Glu	Ile	Leu	Pro	Gly	Thr	Phe	Asn	Pro	Met	Pro	Lys	Leu	Lys	Val	Leu	
	450					455					460					
Tyr	Leu	Asn	Asn	Asn	Leu	Gln	Val	Leu	Pro	Pro	His	Ile	Phe	Ser		
465					470				475					480		
Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys	Thr	Asn	Gln	Phe	Thr	His	
				485					490					495		
Leu	Pro	Val	Ser	Asn	Ile	Leu	Asp	Asp	Leu	Asp	Leu	Leu	Thr	Gln	Ile	
			500					505					510			
Asp	Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Ser	Cys	Asp	Leu	Val	Gly	Leu	
		515					520					525				
Gln	Gln	Trp	Ile	Gln	Lys	Leu	Ser	Lys	Asn	Thr	Val	Thr	Asp	Asp	Ile	
	530					535						540				
Leu	Cys	Thr	Ser	Pro	Gly	His	Leu	Asp	Lys	Lys	Glu	Leu	Lys	Ala	Leu	
545					550					555					560	
Asn	Ser	Glu	Ile	Leu	Cys	Pro	Gly	Leu	Val	Asn	Asn	Pro	Ser	Met	Pro	
				565					570					575		
Thr	Gln	Thr	Ser	Tyr	Leu	Met	Val	Thr	Thr	Pro	Ala	Thr	Thr	Thr	Asn	
			580					585					590			
Thr	Ala	Asp	Thr	Ile	Leu	Arg	Ser	Leu	Thr	Asp	Ala	Val	Pro	Leu	Ser	
		595					600					605				
Val	Leu	Ile	Leu	Gly	Leu	Leu	Ile	Met	Phe	Ile	Thr	Ile	Val	Phe	Cys	
	610					615					620					
Ala	Ala	Gly	Ile	Val	Val	Leu	Val	Leu	His	Arg	Arg	Arg	Arg	Tyr	Lys	
625					630					635					640	
Lys	Lys	Gln	Val	Asp	Glu	Gln	Met	Arg	Asp	Asn	Ser	Pro	Val	His	Leu	
				645					650					655		
Gln	Tyr	Ser	Met	Tyr	Gly	His	Lys	Thr	Thr	His	His	Thr	Thr	Glu	Arg	
			660					665					670			
Pro	Ser	Ala	Ser	Leu	Tyr	Glu	Gln	His	Met	Val	Ser	Pro	Met	Val	His	
		675					680					685				
Val	Tyr	Arg	Ser	Pro	Ser	Phe	Gly	Pro	Lys	His	Leu	Glu	Glu	Glu	Glu	
		690				695					700					
Glu	Arg	Asn	Glu	Lys	Glu	Gly	Ser	Asp	Ala	Lys	His	Leu	Gln	Arg	Ser	
705					710					715					720	
Leu	Leu	Glu	Gln	Glu	Asn	His	Ser	Pro	Leu	Thr	Gly	Ser	Asn	Met	Lys	
				725					730					735		
Tyr	Lys	Thr	Thr	Asn	Gln	Ser	Thr	Glu	Phe	Leu	Ser	Phe	Gln	Asp	Ala	
			740					745					750			
Ser	Ser	Leu	Tyr	Arg	Asn	Ile	Leu	Glu	Lys	Glu	Arg	Glu	Leu	Gln	Gln	
		755					760					765				
Leu	Gly	Ile	Thr	Glu	Tyr	Leu	Arg	Lys	Asn	Ile	Ala	Gln	Leu	Gln	Pro	



gct att gag agt ctt cct cca aac atc ttc cga ttt gtt cct tta acc	580
Ala Ile Glu Ser Leu Pro Pro Asn Ile Phe Arg Phe Val Pro Leu Thr	
175 180 185	
cat cta gat ctt cgt gga aat caa tta caa aca ttg cct tat gtt ggt	628
His Leu Asp Leu Arg Gly Asn Gln Leu Gln Thr Leu Pro Tyr Val Gly	
190 195 200	
ttt ctc gaa cac att ggc cga ata ttg gat ctt cag ttg gag gac aac	676
Phe Leu Glu His Ile Gly Arg Ile Leu Asp Leu Gln Leu Glu Asp Asn	
205 210 215	
aaa tgg gcc tgc aat tgt gac tta ttg cag tta aaa act tgg ttg gag	724
Lys Trp Ala Cys Asn Cys Asp Leu Leu Gln Leu Lys Thr Trp Leu Glu	
220 225 230	
aac atg cct cca cag tct ata att ggt gat gtt gtc tgc aac agc cct	772
Asn Met Pro Pro Gln Ser Ile Ile Gly Asp Val Val Cys Asn Ser Pro	
235 240 245 250	
cca ttt ttt aaa gga agt ata ctc agt aga cta aag aag gaa tct att	820
Pro Phe Phe Lys Gly Ser Ile Leu Ser Arg Leu Lys Lys Glu Ser Ile	
255 260 265	
tgc cct act cca cca gtg tat gaa gaa cat gag gat cct tca gga tca	868
Cys Pro Thr Pro Val Tyr Glu Glu His Glu Asp Pro Ser Gly Ser	
270 275 280	
tta cat ctg gca gca aca tct tca ata aat gat agt cgc atg tca act	916
Leu His Leu Ala Ala Thr Ser Ser Ile Asn Asp Ser Arg Met Ser Thr	
285 290 295	
aag acc acg tcc att cta aaa cta ccc acc aaa gca cca ggt ttg ata	964
Lys Thr Thr Ser Ile Leu Lys Leu Pro Thr Lys Ala Pro Gly Leu Ile	
300 305 310	
cct tat att aca aag cca tcc act caa ctt cca gga cct tac tgc cct	1012
Pro Tyr Ile Thr Lys Pro Ser Thr Gln Leu Pro Gly Pro Tyr Cys Pro	
315 320 325 330	
att cct tgt aac tgc aaa gtc cta tcc cca tca gga ctt cta ata cat	1060
Ile Pro Cys Asn Cys Lys Val Leu Ser Pro Ser Gly Leu Leu Ile His	
335 340 345	
tgt cag gag cgc aac att gaa agc tta tca gat ctg aga cct cct ccg	1108
Cys Gln Glu Arg Asn Ile Glu Ser Leu Ser Asp Leu Arg Pro Pro Pro	
350 355 360	
caa aat cct aga aag ctc att cta gcg gga aat att att cac agt tta	1156
Gln Asn Pro Arg Lys Leu Ile Leu Ala Gly Asn Ile Ile His Ser Leu	
365 370 375	
atg aag tct gat cta gtg gaa tat ttc act ttg gaa atg ctt cac ttg	1204
Met Lys Ser Asp Leu Val Glu Tyr Phe Thr Leu Glu Met Leu His Leu	
380 385 390	
gga aac aat cgt att gaa gtt ctt gaa gaa gga tcg ttt atg aac cta	1252
Gly Asn Asn Arg Ile Glu Val Leu Glu Glu Gly Ser Phe Met Asn Leu	
395 400 405 410	
acg aga tta caa aaa ctc tat cta aat ggt aac cac ctg acc aaa tta	1300
Thr Arg Leu Gln Lys Leu Tyr Leu Asn Gly Asn His Leu Thr Lys Leu	
415 420 425	



agt	aaa	ggc	atg	ttc	ctt	ggt	ctc	cat	aat	ctt	gaa	tac	tta	tat	ctt	1348
Ser	Lys	Gly	Met	Phe	Leu	Gly	Leu	His	Asn	Leu	Glu	Tyr	Leu	Tyr	Leu	
		430						435					440			
gaa	tac	aat	gcc	att	aag	gaa	ata	ctg	cca	gga	acc	ttt	aat	cca	atg	1396
Glu	Tyr	Asn	Ala	Ile	Lys	Glu	Ile	Leu	Pro	Gly	Thr	Phe	Asn	Pro	Met	
		445					450					455				
cct	aaa	ctt	aaa	gtc	ctg	tat	tta	aat	aac	aac	ctc	ctc	caa	ggt	tta	1444
Pro	Lys	Leu	Lys	Val	Leu	Tyr	Leu	Asn	Asn	Asn	Leu	Leu	Gln	Val	Leu	
	460					465					470					
cca	cca	cat	att	ttt	tca	ggg	ggt	cct	cta	act	aag	gta	aat	ctt	aaa	1492
Pro	Pro	His	Ile	Phe	Ser	Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys	
	475				480					485					490	
aca	aac	cag	ttt	acc	cat	cta	cct	gta	agt	aat	att	ttg	gat	gat	ctt	1540
Thr	Asn	Gln	Phe	Thr	His	Leu	Pro	Val	Ser	Asn	Ile	Leu	Asp	Asp	Leu	
			495					500						505		
gat	ttg	cta	acc	cag	att	gac	ctt	gag	gat	aac	ccc	tgg	gac	tgc	tcc	1588
Asp	Leu	Leu	Thr	Gln	Ile	Asp	Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Ser	
			510					515					520			
tgt	gac	ctg	ggt	gga	ctg	cag	caa	tgg	ata	caa	aag	tta	agc	aag	aac	1636
Cys	Asp	Leu	Val	Gly	Leu	Gln	Gln	Trp	Ile	Gln	Lys	Leu	Ser	Lys	Asn	
		525					530					535				
aca	gtg	aca	gat	gac	atc	ctc	tgc	act	tcc	ccc	ggg	cat	ctc	gac	aaa	1684
Thr	Val	Thr	Asp	Asp	Ile	Leu	Cys	Thr	Ser	Pro	Gly	His	Leu	Asp	Lys	
	540					545					550					
aag	gaa	ttg	aaa	gcc	cta	aat	agt	gaa	att	ctc	tgt	cca	ggt	tta	gta	1732
Lys	Glu	Leu	Lys	Ala	Leu	Asn	Ser	Glu	Ile	Leu	Cys	Pro	Gly	Leu	Val	
	555				560					565					570	
aat	aac	cca	tcc	atg	cca	aca	cag	act	agt	tac	ctt	atg	gtc	acc	act	1780
Asn	Asn	Pro	Ser	Met	Pro	Thr	Gln	Thr	Ser	Tyr	Leu	Met	Val	Thr	Thr	
				575					580					585		
cct	gca	aca	aca	aca	aat	acg	gct	gat	act	att	tta	cga	tct	ctt	acg	1828
Pro	Ala	Thr	Thr	Thr	Asn	Thr	Ala	Asp	Thr	Ile	Leu	Arg	Ser	Leu	Thr	
			590					595					600			
gac	gct	gtg	cca	ctg	tct	ggt	cta	ata	ttg	gga	ctt	ctg	att	atg	ttc	1876
Asp	Ala	Val	Pro	Leu	Ser	Val	Leu	Ile	Leu	Gly	Leu	Leu	Ile	Met	Phe	
		605					610					615				
atc	act	att	ggt	ttc	tgt	gct	gca	ggg	ata	gtg	ggt	ctt	ggt	ctt	cac	1924
Ile	Thr	Ile	Val	Phe	Cys	Ala	Ala	Gly	Ile	Val	Val	Leu	Val	Leu	His	
	620					625					630					
cgc	agg	aga	aga	tac	aaa	aag	aaa	caa	gta	gat	gag	caa	atg	aga	gac	1972
Arg	Arg	Arg	Arg	Tyr	Lys	Lys	Lys	Gln	Val	Asp	Glu	Gln	Met	Arg	Asp	
	635				640					645					650	
aac	agt	cct	gtg	cat	ctt	cag	tac	agc	atg	tat	ggc	cat	aaa	acc	act	2020
Asn	Ser	Pro	Val	His	Leu	Gln	Tyr	Ser	Met	Tyr	Gly	His	Lys	Thr	Thr	
				655					660					665		
cat	cac	act	act	gaa	aga	ccc	tct	gcc	tca	ctc	tat	gaa	cag	cac	atg	2068
His	His	Thr	Thr	Glu	Arg	Pro	Ser	Ala	Ser	Leu	Tyr	Glu	Gln	His	Met	
			670					675					680			

gtg agc ccc atg gtt cat gtc tat aga agt cca tcc ttt ggt cca aag	2116
Val Ser Pro Met Val His Val Tyr Arg Ser Pro Ser Phe Gly Pro Lys	
685 690 695	
cat ctg gaa gag gaa gaa gag agg aat gag aaa gaa gga agt gat gca	2164
His Leu Glu Glu Glu Glu Glu Arg Asn Glu Lys Glu Gly Ser Asp Ala	
700 705 710	
aaa cat ctc caa aga agt ctt ttg gaa cag gaa aat cat tca cca ctc	2212
Lys His Leu Gln Arg Ser Leu Leu Glu Gln Glu Asn His Ser Pro Leu	
715 720 725 730	
aca ggg tca aat atg aaa tac aaa acc acg aac caa tca aca gaa ttt	2260
Thr Gly Ser Asn Met Lys Tyr Lys Thr Thr Asn Gln Ser Thr Glu Phe	
735 740 745	
tta tcc ttc caa gat gcc agc tca ttg tac aga aac att tta gaa aaa	2308
Leu Ser Phe Gln Asp Ala Ser Ser Leu Tyr Arg Asn Ile Leu Glu Lys	
750 755 760	
gaa agg gaa ctt cag caa ctg gga atc aca gaa tac cta agg aaa aac	2356
Glu Arg Glu Leu Gln Gln Leu Gly Ile Thr Glu Tyr Leu Arg Lys Asn	
765 770 775	
att gct cag ctc cag cct gat atg gag gca cat tat cct gga gcc cac	2404
Ile Ala Gln Leu Gln Pro Asp Met Glu Ala His Tyr Pro Gly Ala His	
780 785 790	
gaa gag ctg aag tta atg gaa aca tta atg tac tca cgt cca agg aag	2452
Glu Glu Leu Lys Leu Met Glu Thr Leu Met Tyr Ser Arg Pro Arg Lys	
795 800 805 810	
gta tta gtg gaa cag aca aaa aat gag tat ttt gaa ctt aaa gct aat	2500
Val Leu Val Glu Gln Thr Lys Asn Glu Tyr Phe Glu Leu Lys Ala Asn	
815 820 825	
tta cat gct gaa cct gac tat tta gaa gtc ctg gag cag caa aca tag	2548
Leu His Ala Glu Pro Asp Tyr Leu Glu Val Leu Glu Gln Gln Thr *	
830 835 840	
atggaga	2555
<210> 5	
<211> 841	
<212> PRT	
<213> Homo sapiens	
<400> 5	
Met Lys Leu Trp Ile His Leu Phe Tyr Ser Ser Leu Leu Ala Cys Ile	
1 5 10 15	
Ser Leu His Ser Gln Thr Pro Val Leu Ser Ser Arg Gly Ser Cys Asp	
20 25 30	
Ser Leu Cys Asn Cys Glu Glu Lys Asp Gly Thr Met Leu Ile Asn Cys	
35 40 45	
Glu Ala Lys Gly Ile Lys Met Val Ser Glu Ile Ser Val Pro Pro Ser	
50 55 60	
Arg Pro Phe Gln Leu Ser Leu Leu Asn Asn Gly Leu Thr Met Leu His	
65 70 75 80	
Thr Asn Asp Phe Ser Gly Leu Thr Asn Ala Ile Ser Ile His Leu Gly	
85 90 95	
Phe Asn Asn Ile Ala Asp Ile Glu Ile Gly Ala Phe Asn Gly Leu Gly	
100 105 110	
Leu Leu Lys Gln Leu His Ile Asn His Asn Ser Leu Glu Ile Leu Lys	





Ile	Ser	Ile	His	Leu	Gly	Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly		
				95					100					105			
gca	ttt	aat	ggc	ctt	ggc	ctc	ctg	aaa	caa	ctt	cat	atc	aat	cac	aat	388	
Ala	Phe	Asn	Gly	Leu	Gly	Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn		
			110					115					120				
tct	tta	gaa	att	ctt	aaa	gag	gat	act	ttc	cat	gga	ctg	gaa	aac	ctg	436	
Ser	Leu	Glu	Ile	Leu	Lys	Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu		
		125					130					135					
gaa	ttc	ctg	caa	gca	gat	aac	aat	ttt	atc	aca	gtg	att	gaa	cca	agt	484	
Glu	Phe	Leu	Gln	Ala	Asp	Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser		
	140					145					150						
gcc	ttt	agc	aag	ctc	aac	aga	ctc	aaa	gtg	tta	att	tta	aat	gac	aat	532	
Ala	Phe	Ser	Lys	Leu	Asn	Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn		
	155				160				165						170		
gct	att	gag	agt	ctt	cct	cca	aac	atc	ttc	cga	ttt	gtt	cct	tta	acc	580	
Ala	Ile	Glu	Ser	Leu	Pro	Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr		
				175					180					185			
cat	cta	gat	ctt	cgt	gga	aat	caa	tta	caa	aca	ttg	cct	tat	gtt	ggc	628	
His	Leu	Asp	Leu	Arg	Gly	Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly		
			190				195						200				
ttt	ctc	gaa	cac	att	ggc	cga	ata	ttg	gat	ctt	cag	ttg	gag	gac	aac	676	
Phe	Leu	Glu	His	Ile	Gly	Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn		
	205						210					215					
aaa	tgg	gcc	tgc	aat	tgt	gac	tta	ttg	cag	tta	aaa	act	tgg	ttg	gag	724	
Lys	Trp	Ala	Cys	Asn	Cys	Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu		
	220					225					230						
aac	atg	cct	cca	cag	tct	ata	att	ggc	gat	gtt	gtc	tgc	aac	agc	cct	772	
Asn	Met	Pro	Pro	Gln	Ser	Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro		
	235				240					245					250		
cca	ttt	ttt	aaa	gga	agt	ata	ctc	agt	aga	cta	aag	aag	gaa	tct	att	820	
Pro	Phe	Phe	Lys	Gly	Ser	Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile		
			255					260					265				
tgc	cct	act	cca	cca	gtg	tat	gaa	gaa	cat	gag	gat	cct	tca	gga	tca	868	
Cys	Pro	Thr	Pro	Pro	Val	Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser		
			270				275						280				
tta	cat	ctg	gca	gca	aca	tct	tca	ata	aat	gat	agt	cgc	atg	tca	act	916	
Leu	His	Leu	Ala	Ala	Thr	Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr		
		285					290					295					
aag	acc	acg	tcc	att	cta	aaa	cta	ccc	acc	aaa	gca	cca	ggc	ttg	ata	964	
Lys	Thr	Thr	Ser	Ile	Leu	Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile		
	300					305					310						
cct	tat	att	aca	aag	cca	tcc	act	caa	ctt	cca	gga	cct	tac	tgc	cct	1012	
Pro	Tyr	Ile	Thr	Lys	Pro	Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro		
	315				320					325					330		
att	cct	tgt	aac	tgc	aaa	gtc	cta	tcc	cca	tca	gga	ctt	cta	ata	cat	1060	
Ile	Pro	Cys	Asn	Cys	Lys	Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His		
			335					340						345			
tgt	cag	gag	cgc	aac	att	gaa	agc	tta	tca	gat	ctg	aga	cct	cct	ccg	1108	

Cys	Gln	Glu	Arg	Asn	Ile	Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro		
			350					355					360				
caa	aat	cct	aga	aag	ctc	att	cta	gcg	gga	aat	att	att	cac	agt	tta	1156	
Gln	Asn	Pro	Arg	Lys	Leu	Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu		
		365					370					375					
atg	aag	tct	gat	cta	gtg	gaa	tat	ttc	act	ttg	gaa	atg	ctt	cac	ttg	1204	
Met	Lys	Ser	Asp	Leu	Val	Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu		
	380					385					390						
gga	aac	aat	cgt	att	gaa	gtt	ctt	gaa	gaa	gga	tcg	ttt	atg	aac	cta	1252	
Gly	Asn	Asn	Arg	Ile	Glu	Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu		
	395				400					405					410		
acg	aga	tta	caa	aaa	ctc	tat	cta	aat	ggg	aac	cac	ctg	acc	aaa	tta	1300	
Thr	Arg	Leu	Gln	Lys	Leu	Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu		
			415					420						425			
agt	aaa	ggc	atg	ttc	ctt	ggg	ctc	cat	aat	ctt	gaa	tac	tta	tat	ctt	1348	
Ser	Lys	Gly	Met	Phe	Leu	Gly	Leu	His	Asn	Leu	Glu	Tyr	Leu	Tyr	Leu		
		430					435						440				
gaa	tac	aat	gcc	att	aag	gaa	ata	ctg	cca	gga	acc	ttt	aat	cca	atg	1396	
Glu	Tyr	Asn	Ala	Ile	Lys	Glu	Ile	Leu	Pro	Gly	Thr	Phe	Asn	Pro	Met		
		445					450					455					
cct	aaa	ctt	aaa	gtc	ctg	tat	tta	aat	aac	aac	ctc	ctc	caa	gtt	tta	1444	
Pro	Lys	Leu	Lys	Val	Leu	Tyr	Leu	Asn	Asn	Asn	Leu	Leu	Gln	Val	Leu		
	460					465					470						
cca	cca	cat	att	ttt	tca	ggg	gtt	cct	cta	act	aag	gta	aat	ctt	aaa	1492	
Pro	Pro	His	Ile	Phe	Ser	Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys		
	475				480					485					490		
aca	aac	cag	ttt	acc	cat	cta	cct	gta	agt	aat	att	ttg	gat	gat	ctt	1540	
Thr	Asn	Gln	Phe	Thr	His	Leu	Pro	Val	Ser	Asn	Ile	Leu	Asp	Asp	Leu		
			495					500						505			
gat	tta	cta	acc	cag	att	gac	ctt	gag	gat	aac	ccc	tg	gac	tgc	tcc	1588	
Asp	Leu	Leu	Thr	Gln	Ile	Asp	Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Ser		
			510					515					520				
tgt	gac	ctg	gtt	gga	ctg	cag	caa	tg	ata	caa	aag	tta	agc	aag	aac	1636	
Cys	Asp	Leu	Val	Gly	Leu	Gln	Gln	Trp	Ile	Gln	Lys	Leu	Ser	Lys	Asn		
		525					530					535					
aca	gtg	aca	gat	gac	atc	ctc	tgc	act	tcc	ccc	ggg	cat	ctc	gac	aaa	1684	
Thr	Val	Thr	Asp	Asp	Ile	Leu	Cys	Thr	Ser	Pro	Gly	His	Leu	Asp	Lys		
	540					545					550						
aag	gaa	ttg	aaa	gcc	cta	aat	agt	gaa	att	ctc	tgt	cca	ggg	tta	gta	1732	
Lys	Glu	Leu	Lys	Ala	Leu	Asn	Ser	Glu	Ile	Leu	Cys	Pro	Gly	Leu	Val		
	555				560					565					570		
aat	aac	cca	tcc	atg	cca	aca	cag	act	agt	tac	ctt	atg	gtc	acc	act	1780	
Asn	Asn	Pro	Ser	Met	Pro	Thr	Gln	Thr	Ser	Tyr	Leu	Met	Val	Thr	Thr		
			575					580						585			
cct	gca	aca	aca	aca	aat	acg	gct	gat	act	att	tta	cga	tct	ctt	acg	1828	
Pro	Ala	Thr	Thr	Thr	Asn	Thr	Ala	Asp	Thr	Ile	Leu	Arg	Ser	Leu	Thr		
			590					595					600				
gac	gct	gtg	cca	ctg	tct	gtt	cta	ata	ttg	gga	ctt	ctg	att	atg	ttc	1876	

Asp	Ala	Val	Pro	Leu	Ser	Val	Leu	Ile	Leu	Gly	Leu	Leu	Ile	Met	Phe		
		605					610					615					
atc	act	att	gtt	ttc	tgt	gct	gca	ggg	ata	gtg	gtt	ctt	gtt	ctt	cac	1924	
Ile	Thr	Ile	Val	Phe	Cys	Ala	Ala	Gly	Ile	Val	Val	Leu	Val	Leu	His		
		620				625					630						
cgc	agg	aga	aga	tac	aaa	aag	aaa	caa	gta	gat	gag	caa	atg	aga	gac	1972	
Arg	Arg	Arg	Arg	Tyr	Lys	Lys	Lys	Gln	Val	Asp	Glu	Gln	Met	Arg	Asp		
		635			640					645					650		
aac	agt	cct	gtg	cat	ctt	cag	tac	agc	atg	tat	ggc	cat	aaa	acc	act	2020	
Asn	Ser	Pro	Val	His	Leu	Gln	Tyr	Ser	Met	Tyr	Gly	His	Lys	Thr	Thr		
				655					660					665			
cat	cac	act	act	gaa	aga	ccc	tct	gcc	tca	ctc	tat	gaa	cag	cac	atg	2068	
His	His	Thr	Thr	Glu	Arg	Pro	Ser	Ala	Ser	Leu	Tyr	Glu	Gln	His	Met		
				670				675					680				
gga	gcc	cac	gaa	gag	ctg	aag	tta	atg	gaa	aca	tta	atg	tac	tca	cgt	2116	
Gly	Ala	His	Glu	Glu	Leu	Lys	Leu	Met	Glu	Thr	Leu	Met	Tyr	Ser	Arg		
		685					690					695					
cca	agg	aag	gta	tta	gtg	gaa	cag	aca	aaa	aat	gag	tat	ttt	gaa	ctt	2164	
Pro	Arg	Lys	Val	Leu	Val	Glu	Gln	Thr	Lys	Asn	Glu	Tyr	Phe	Glu	Leu		
		700				705					710						
aaa	gct	aat	tta	cat	gct	gaa	cct	gac	tat	tta	gaa	gtc	ctg	gag	cag	2212	
Lys	Ala	Asn	Leu	His	Ala	Glu	Pro	Asp	Tyr	Leu	Glu	Val	Leu	Glu	Gln		
		715			720					725					730		
caa	aca	tag	atggaga													2228	
Gln	Thr	*															

<210> 7  
 <211> 732  
 <212> PRT  
 <213> Homo sapiens

<400> 7

Met	Lys	Leu	Trp	Ile	His	Leu	Phe	Tyr	Ser	Ser	Leu	Leu	Ala	Cys	Ile		
1				5					10					15			
Ser	Leu	His	Ser	Gln	Thr	Pro	Val	Leu	Ser	Ser	Arg	Gly	Ser	Cys	Asp		
			20					25					30				
Ser	Leu	Cys	Asn	Cys	Glu	Glu	Lys	Asp	Gly	Thr	Met	Leu	Ile	Asn	Cys		
		35					40					45					
Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile	Ser	Val	Pro	Pro	Ser		
		50				55					60						
Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly	Leu	Thr	Met	Leu	His		
65					70				75						80		
Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile	Ser	Ile	His	Leu	Gly		
			85					90						95			
Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala	Phe	Asn	Gly	Leu	Gly		
			100					105					110				
Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys		
		115					120					125					
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp		
		130				135					140						
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn		
145					150					155					160		
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro		
				165					170						175		

Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly
			180					185					190		
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly
		195					200					205			
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys
	210					215					220				
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser
225					230					235					240
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser
				245					250					255	
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val
			260					265					270		
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr
		275					280					285			
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu
	290					295					300				
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro
305					310					315					320
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys
				325					330					335	
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile
			340					345					350		
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu
		355					360					365			
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Asp	Leu	Val
	370					375					380				
Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu	Gly	Asn	Asn	Arg	Ile	Glu
385					390					395					400
Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu	Thr	Arg	Leu	Gln	Lys	Leu
				405					410					415	
Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu	Ser	Lys	Gly	Met	Phe	Leu
		420						425					430		
Gly	Leu	His	Asn	Leu	Glu	Tyr	Leu	Tyr	Leu	Glu	Tyr	Asn	Ala	Ile	Lys
		435					440					445			
Glu	Ile	Leu	Pro	Gly	Thr	Phe	Asn	Pro	Met	Pro	Lys	Leu	Lys	Val	Leu
	450					455					460				
Tyr	Leu	Asn	Asn	Asn	Leu	Gln	Val	Leu	Pro	Pro	His	Ile	Phe	Ser	
465					470				475					480	
Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys	Thr	Asn	Gln	Phe	Thr	His
				485					490					495	
Leu	Pro	Val	Ser	Asn	Ile	Leu	Asp	Asp	Leu	Asp	Leu	Leu	Thr	Gln	Ile
			500					505					510		
Asp	Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Ser	Cys	Asp	Leu	Val	Gly	Leu
		515					520					525			
Gln	Gln	Trp	Ile	Gln	Lys	Leu	Ser	Lys	Asn	Thr	Val	Thr	Asp	Asp	Ile
		530				535					540				
Leu	Cys	Thr	Ser	Pro	Gly	His	Leu	Asp	Lys	Lys	Glu	Leu	Lys	Ala	Leu
545					550					555					560
Asn	Ser	Glu	Ile	Leu	Cys	Pro	Gly	Leu	Val	Asn	Asn	Pro	Ser	Met	Pro
				565					570					575	
Thr	Gln	Thr	Ser	Tyr	Leu	Met	Val	Thr	Thr	Pro	Ala	Thr	Thr	Thr	Asn
			580					585					590		
Thr	Ala	Asp	Thr	Ile	Leu	Arg	Ser	Leu	Thr	Asp	Ala	Val	Pro	Leu	Ser
		595					600					605			
Val	Leu	Ile	Leu	Gly	Leu	Leu	Ile	Met	Phe	Ile	Thr	Ile	Val	Phe	Cys
		610				615					620				
Ala	Ala	Gly	Ile	Val	Val	Leu	Val	Leu	His	Arg	Arg	Arg	Arg	Tyr	Lys
625					630					635					640
Lys	Lys	Gln	Val	Asp	Glu	Gln	Met	Arg	Asp	Asn	Ser	Pro	Val	His	Leu
				645					650					655	
Gln	Tyr	Ser	Met	Tyr	Gly	His	Lys	Thr	Thr	His	His	Thr	Thr	Glu	Arg
			660					665					670		
Pro	Ser	Ala	Ser	Leu	Tyr	Glu	Gln	His	Met	Gly	Ala	His	Glu	Glu	Leu
		675					680					685			



Lys Leu Met Glu Thr Leu Met Tyr Ser Arg Pro Arg Lys Val Leu Val  
 690 695 700  
 Glu Gln Thr Lys Asn Glu Tyr Phe Glu Leu Lys Ala Asn Leu His Ala  
 705 710 715 720  
 Glu Pro Asp Tyr Leu Glu Val Leu Glu Gln Gln Thr  
 725 730

<210> 8  
 <211> 1620  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (23)...(1210)

<400> 8  
 tcggatttca tcacatgaca ac atg aag ctg tgg att cat ctc ttt tat tca 52  
 Met Lys Leu Trp Ile His Leu Phe Tyr Ser  
 1 5 10  
  
 tct ctc ctt gcc tgt ata tct tta cac tcc caa act cca gtg ctc tca 100  
 Ser Leu Leu Ala Cys Ile Ser Leu His Ser Gln Thr Pro Val Leu Ser  
 15 20 25  
  
 tcc aga ggc tct tgt gat tct ctt tgc aat tgt gag gaa aaa gat ggc 148  
 Ser Arg Gly Ser Cys Asp Ser Leu Cys Asn Cys Glu Glu Lys Asp Gly  
 30 35 40  
  
 aca atg cta ata aat tgt gaa gca aaa ggt atc aag atg gta tct gaa 196  
 Thr Met Leu Ile Asn Cys Glu Ala Lys Gly Ile Lys Met Val Ser Glu  
 45 50 55  
  
 ata agt gtg cca cca tca cga cct ttc caa cta agc tta tta aat aac 244  
 Ile Ser Val Pro Pro Ser Arg Pro Phe Gln Leu Ser Leu Leu Asn Asn  
 60 65 70  
  
 ggc ttg acg atg ctt cac aca aat gac ttt tct ggg ctt acc aat gct 292  
 Gly Leu Thr Met Leu His Thr Asn Asp Phe Ser Gly Leu Thr Asn Ala  
 75 80 85 90  
  
 att tca ata cac ctt gga ttt aac aat att gca gat att gag ata ggt 340  
 Ile Ser Ile His Leu Gly Phe Asn Asn Ile Ala Asp Ile Glu Ile Gly  
 95 100 105  
  
 gca ttt aat ggc ctt ggc ctc ctg aaa caa ctt cat atc aat cac aat 388  
 Ala Phe Asn Gly Leu Gly Leu Leu Lys Gln Leu His Ile Asn His Asn  
 110 115 120  
  
 tct tta gaa att ctt aaa gag gat act ttc cat gga ctg gaa aac ctg 436  
 Ser Leu Glu Ile Leu Lys Glu Asp Thr Phe His Gly Leu Glu Asn Leu  
 125 130 135  
  
 gaa ttc ctg caa gca gat aac aat ttt atc aca gtg att gaa cca agt 484  
 Glu Phe Leu Gln Ala Asp Asn Asn Phe Ile Thr Val Ile Glu Pro Ser  
 140 145 150  
  
 gcc ttt agc aag ctc aac aga ctc aaa gtg tta att tta aat gac aat 532  
 Ala Phe Ser Lys Leu Asn Arg Leu Lys Val Leu Ile Leu Asn Asp Asn  
 155 160 165 170  
  
 gct att gag agt ctt cct cca aac atc ttc cga ttt gtt cct tta acc 580  
 Ala Ile Glu Ser Leu Pro Pro Asn Ile Phe Arg Phe Val Pro Leu Thr

175										180										185										
cat	cta	gat	ctt	cgt	gga	aat	caa	tta	caa	aca	ttg	cct	tat	gtt	ggt	628														
His	Leu	Asp	Leu	Arg	Gly	Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly															
190					195					200																				
ttt	ctc	gaa	cac	att	ggc	cga	ata	ttg	gat	ctt	cag	ttg	gag	gac	aac	676														
Phe	Leu	Glu	His	Ile	Gly	Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn															
205					210					215																				
aaa	tgg	gcc	tgc	aat	tgt	gac	tta	ttg	cag	tta	aaa	act	tgg	ttg	gag	724														
Lys	Trp	Ala	Cys	Asn	Cys	Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu															
220					225					230																				
aac	atg	cct	cca	cag	tct	ata	att	ggg	gat	gtt	gtc	tgc	aac	agc	cct	772														
Asn	Met	Pro	Pro	Gln	Ser	Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro															
235					240					245					250															
cca	ttt	ttt	aaa	gga	agt	ata	ctc	agt	aga	cta	aag	aag	gaa	tct	att	820														
Pro	Phe	Phe	Lys	Gly	Ser	Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile															
255					260					265																				
tgc	cct	act	cca	cca	gtg	tat	gaa	gaa	cat	gag	gat	cct	tca	gga	tca	868														
Cys	Pro	Thr	Pro	Pro	Val	Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser															
270					275					280																				
tta	cat	ctg	gca	gca	aca	tct	tca	ata	aat	gat	agt	cgc	atg	tca	act	916														
Leu	His	Leu	Ala	Ala	Thr	Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr															
285					290					295																				
aag	acc	acg	tcc	att	cta	aaa	cta	ccc	acc	aaa	gca	cca	ggg	ttg	ata	964														
Lys	Thr	Thr	Ser	Ile	Leu	Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile															
300					305					310																				
cct	tat	att	aca	aag	cca	tcc	act	caa	ctt	cca	gga	cct	tac	tgc	cct	1012														
Pro	Tyr	Ile	Thr	Lys	Pro	Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro															
315					320					325					330															
att	cct	tgt	aac	tgc	aaa	gtc	cta	tcc	cca	tca	gga	ctt	cta	ata	cat	1060														
Ile	Pro	Cys	Asn	Cys	Lys	Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His															
335					340					345																				
tgt	cag	gag	cgc	aac	att	gaa	agc	tta	tca	gat	ctg	aga	cct	cct	ccg	1108														
Cys	Gln	Glu	Arg	Asn	Ile	Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro															
350					355					360																				
caa	aat	cct	aga	aag	ctc	att	cta	gcg	gga	aat	att	att	cac	agt	tta	1156														
Gln	Asn	Pro	Arg	Lys	Leu	Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu															
365					370					375																				
atg	aag	tcc	atc	ctt	tgg	tcc	aaa	gca	tct	gga	aga	gga	aga	aga	gag	1204														
Met	Lys	Ser	Ile	Leu	Trp	Ser	Lys	Ala	Ser	Gly	Arg	Gly	Arg	Arg	Glu															
380					385					390																				
gaa	tga	gaaagaagga agtgatgcaa aacatctcca aagaagtctt ttggaacagg										1260																		
Glu	*																													
395																														
aaaatcattc accactcaca ggggtcaaata tgaaatacaa aaccacgaac caatcaacag 1320 aattttttatc cttccaagat gccagctcat tgtacagaaa catttttagaa aaagaaaggg 1380 aacttcagca actgggaatc acagaatacc taaggaaaaa cattgctcag ctccagcctg 1440 atatggaggc acattatcct ggagcccacg aagagctgaa gttaatggaa acattaatgt 1500 actcacgtcc aaggaaggta ttagtggaac agacaaaaaa tgagtatttt gaacttaaag 1560 ctaatttaca tgctgaacct gactatttag aagtcctgga gcagcaaaca tagatggaga 1620																														

<210> 9  
 <211> 395  
 <212> PRT  
 <213> Homo sapiens

<400> 9  
 Met Lys Leu Trp Ile His Leu Phe Tyr Ser Ser Leu Leu Ala Cys Ile  
 1 5 10 15  
 Ser Leu His Ser Gln Thr Pro Val Leu Ser Ser Arg Gly Ser Cys Asp  
 20 25 30  
 Ser Leu Cys Asn Cys Glu Glu Lys Asp Gly Thr Met Leu Ile Asn Cys  
 35 40 45  
 Glu Ala Lys Gly Ile Lys Met Val Ser Glu Ile Ser Val Pro Pro Ser  
 50 55 60  
 Arg Pro Phe Gln Leu Ser Leu Leu Asn Asn Gly Leu Thr Met Leu His  
 65 70 75 80  
 Thr Asn Asp Phe Ser Gly Leu Thr Asn Ala Ile Ser Ile His Leu Gly  
 85 90 95  
 Phe Asn Asn Ile Ala Asp Ile Glu Ile Gly Ala Phe Asn Gly Leu Gly  
 100 105 110  
 Leu Leu Lys Gln Leu His Ile Asn His Asn Ser Leu Glu Ile Leu Lys  
 115 120 125  
 Glu Asp Thr Phe His Gly Leu Glu Asn Leu Glu Phe Leu Gln Ala Asp  
 130 135 140  
 Asn Asn Phe Ile Thr Val Ile Glu Pro Ser Ala Phe Ser Lys Leu Asn  
 145 150 155 160  
 Arg Leu Lys Val Leu Ile Leu Asn Asp Asn Ala Ile Glu Ser Leu Pro  
 165 170 175  
 Pro Asn Ile Phe Arg Phe Val Pro Leu Thr His Leu Asp Leu Arg Gly  
 180 185 190  
 Asn Gln Leu Gln Thr Leu Pro Tyr Val Gly Phe Leu Glu His Ile Gly  
 195 200 205  
 Arg Ile Leu Asp Leu Gln Leu Glu Asp Asn Lys Trp Ala Cys Asn Cys  
 210 215 220  
 Asp Leu Leu Gln Leu Lys Thr Trp Leu Glu Asn Met Pro Pro Gln Ser  
 225 230 235 240  
 Ile Ile Gly Asp Val Val Cys Asn Ser Pro Pro Phe Phe Lys Gly Ser  
 245 250 255  
 Ile Leu Ser Arg Leu Lys Lys Glu Ser Ile Cys Pro Thr Pro Pro Val  
 260 265 270  
 Tyr Glu Glu His Glu Asp Pro Ser Gly Ser Leu His Leu Ala Ala Thr  
 275 280 285  
 Ser Ser Ile Asn Asp Ser Arg Met Ser Thr Lys Thr Thr Ser Ile Leu  
 290 295 300  
 Lys Leu Pro Thr Lys Ala Pro Gly Leu Ile Pro Tyr Ile Thr Lys Pro  
 305 310 315 320  
 Ser Thr Gln Leu Pro Gly Pro Tyr Cys Pro Ile Pro Cys Asn Cys Lys  
 325 330 335  
 Val Leu Ser Pro Ser Gly Leu Leu Ile His Cys Gln Glu Arg Asn Ile  
 340 345 350  
 Glu Ser Leu Ser Asp Leu Arg Pro Pro Gln Asn Pro Arg Lys Leu  
 355 360 365  
 Ile Leu Ala Gly Asn Ile Ile His Ser Leu Met Lys Ser Ile Leu Trp  
 370 375 380  
 Ser Lys Ala Ser Gly Arg Gly Arg Arg Glu Glu  
 385 390 395

<210> 10  
 <211> 3300  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS  
 <222> (480)...(3005)

<400> 10  
 gcgtcgacaa caagaaatac tagaaaagga ggaaggagaa cattgctgca gcttggatct 60  
 acaacctaag aaagcaagag tgatcaatct cagctctgtt aaacatcttg tttacttact 120  
 gcattcagca gcttgcaaat ggtaactat atgcaaaaaa gtcagcatag ctgtgaagta 180  
 tgccgtgaat ttttaattgag ggaaaaaagga caattgcttc aggatgctct agtatgcact 240  
 ctgcttgaaa tattttcaat gaaatgctca gtattctatc tttgaccaga ggttttaact 300  
 ttatgaagct atgggacttg acaaaaagtg atatttgaga agaaagtacg cagtggttgg 360  
 tgttttcttt tttttaataa aggaattgaa ttactttgaa cacctcttcc agctgtgcat 420  
 tacagataac gtcaggaaga gtctctgctt tacagaatcg gatttcatca catgacaac 479  
 atg aag ctg tgg att cat ctc ttt tat tca tct ctc ctt gcc tgt ata 527  
 Met Lys Leu Trp Ile His Leu Phe Tyr Ser Ser Leu Leu Ala Cys Ile  
     1                    5                    10                    15

tct tta cac tcc caa act cca gtg ctc tca tcc aga ggc tct tgt gat 575  
 Ser Leu His Ser Gln Thr Pro Val Leu Ser Ser Arg Gly Ser Cys Asp  
                     20                    25                    30

tct ctt tgc aat tgt gag gaa aaa gat ggc aca atg cta ata aat tgt 623  
 Ser Leu Cys Asn Cys Glu Glu Lys Asp Gly Thr Met Leu Ile Asn Cys  
                     35                    40                    45

gaa gca aaa ggt atc aag atg gta tct gaa ata agt gtg cca cca tca 671  
 Glu Ala Lys Gly Ile Lys Met Val Ser Glu Ile Ser Val Pro Pro Ser  
                     50                    55                    60

cga cct ttc caa cta agc tta tta aat aac ggc ttg acg atg ctt cac 719  
 Arg Pro Phe Gln Leu Ser Leu Leu Asn Asn Gly Leu Thr Met Leu His  
                     65                    70                    75                    80

aca aat gac ttt tct ggg ctt acc aat gct att tca ata cac ctt gga 767  
 Thr Asn Asp Phe Ser Gly Leu Thr Asn Ala Ile Ser Ile His Leu Gly  
                     85                    90                    95

ttt aac aat att gca gat att gag ata ggt gca ttt aat ggc ctt ggc 815  
 Phe Asn Asn Ile Ala Asp Ile Glu Ile Gly Ala Phe Asn Gly Leu Gly  
                     100                    105                    110

ctc ctg aaa caa ctt cat atc aat cac aat tct tta gaa att ctt aaa 863  
 Leu Leu Lys Gln Leu His Ile Asn His Asn Ser Leu Glu Ile Leu Lys  
                     115                    120                    125

gag gat act ttc cat gga ctg gaa aac ctg gaa ttc ctg caa gca gat 911  
 Glu Asp Thr Phe His Gly Leu Glu Asn Leu Glu Phe Leu Gln Ala Asp  
                     130                    135                    140

aac aat ttt atc aca gtg att gaa cca agt gcc ttt agc aag ctc aac 959  
 Asn Asn Phe Ile Thr Val Ile Glu Pro Ser Ala Phe Ser Lys Leu Asn  
                     145                    150                    155                    160

aga ctc aaa gtg tta att tta aat gac aat gct att gag agt ctt cct 1007  
 Arg Leu Lys Val Leu Ile Leu Asn Asp Asn Ala Ile Glu Ser Leu Pro  
                     165                    170                    175

cca aac atc ttc cga ttt gtt cct tta acc cat cta gat ctt cgt gga 1055  
 Pro Asn Ile Phe Arg Phe Val Pro Leu Thr His Leu Asp Leu Arg Gly  
                     180                    185                    190

aat caa tta caa aca ttg cct tat gtt ggt ttt ctc gaa cac att ggc 1103  
 Asn Gln Leu Gln Thr Leu Pro Tyr Val Gly Phe Leu Glu His Ile Gly

195	200	205	
cga ata ttg gat ctt cag ttg gag gac aac aaa tgg gcc tgc aat tgt Arg Ile Leu Asp Leu Gln Leu Glu Asp Asn Lys Trp Ala Cys Asn Cys 210 215 220			1151
gac tta ttg cag tta aaa act tgg ttg gag aac atg cct cca cag tct Asp Leu Leu Gln Leu Lys Thr Trp Leu Glu Asn Met Pro Pro Gln Ser 225 230 235 240			1199
ata att ggt gat gtt gtc tgc aac agc cct cca ttt ttt aaa gga agt Ile Ile Gly Asp Val Val Cys Asn Ser Pro Pro Phe Phe Lys Gly Ser 245 250 255			1247
ata ctc agt aga cta aag aag gaa tct att tgc cct act cca cca gtg Ile Leu Ser Arg Leu Lys Lys Glu Ser Ile Cys Pro Thr Pro Pro Val 260 265 270			1295
tat gaa gaa cat gag gat cct tca gga tca tta cat ctg gca gca aca Tyr Glu Glu His Glu Asp Pro Ser Gly Ser Leu His Leu Ala Ala Thr 275 280 285			1343
tct tca ata aat gat agt cgc atg tca act aag acc acg tcc att cta Ser Ser Ile Asn Asp Ser Arg Met Ser Thr Lys Thr Thr Ser Ile Leu 290 295 300			1391
aaa cta ccc acc aaa gca cca ggt ttg ata cct tat att aca aag cca Lys Leu Pro Thr Lys Ala Pro Gly Leu Ile Pro Tyr Ile Thr Lys Pro 305 310 315 320			1439
tcc act caa ctt cca gga cct tac tgc cct att cct tgt aac tgc aaa Ser Thr Gln Leu Pro Gly Pro Tyr Cys Pro Ile Pro Cys Asn Cys Lys 325 330 335			1487
gtc cta tcc cca tca gga ctt cta ata cat tgt cag gag cgc aac att Val Leu Ser Pro Ser Gly Leu Leu Ile His Cys Gln Glu Arg Asn Ile 340 345 350			1535
gaa agc tta tca gat ctg aga cct cct ccg caa aat cct aga aag ctc Glu Ser Leu Ser Asp Leu Arg Pro Pro Pro Gln Asn Pro Arg Lys Leu 355 360 365			1583
att cta gcg gga aat att att cac agt tta atg aag tct gat cta gtg Ile Leu Ala Gly Asn Ile Ile His Ser Leu Met Lys Ser Asp Leu Val 370 375 380			1631
gaa tat ttc act ttg gaa atg ctt cac ttg gga aac aat cgt att gaa Glu Tyr Phe Thr Leu Glu Met Leu His Leu Gly Asn Asn Arg Ile Glu 385 390 395 400			1679
gtt ctt gaa gaa gga tcg ttt atg aac cta acg aga tta caa aaa ctc Val Leu Glu Glu Gly Ser Phe Met Asn Leu Thr Arg Leu Gln Lys Leu 405 410 415			1727
tat cta aat ggt aac cac ctg acc aaa tta agt aaa ggc atg ttc ctt Tyr Leu Asn Gly Asn His Leu Thr Lys Leu Ser Lys Gly Met Phe Leu 420 425 430			1775
ggt ctc cat aat ctt gaa tac tta tat ctt gaa tac aat gcc att aag Gly Leu His Asn Leu Glu Tyr Leu Tyr Leu Glu Tyr Asn Ala Ile Lys 435 440 445			1823
gaa ata ctg cca gga acc ttt aat cca atg cct aaa ctt aaa gtc ctg Glu Ile Leu Pro Gly Thr Phe Asn Pro Met Pro Lys Leu Lys Val Leu			1871

450	455	460	
tat tta aat aac aac ctc ctc caa gtt tta cca cca cat att ttt tca			1919
Tyr Leu Asn Asn Asn Leu Leu Gln Val Leu Pro Pro His Ile Phe Ser			
465	470	475	480
ggg gtt cct cta act aag gta aat ctt aaa aca aac cag ttt acc cat			1967
Gly Val Pro Leu Thr Lys Val Asn Leu Lys Thr Asn Gln Phe Thr His			
	485	490	495
cta cct gta agt aat att ttg gat gat ctt gat tta cta acc cag att			2015
Leu Pro Val Ser Asn Ile Leu Asp Asp Leu Asp Leu Leu Thr Gln Ile			
	500	505	510
gac ctt gag gat aac ccc tgg gac tgc tcc tgt gac ctg gtt gga ctg			2063
Asp Leu Glu Asp Asn Pro Trp Asp Cys Ser Cys Asp Leu Val Gly Leu			
	515	520	525
cag caa tgg ata caa aag tta agc aag aac aca gtg aca gat gac atc			2111
Gln Gln Trp Ile Gln Lys Leu Ser Lys Asn Thr Val Thr Asp Asp Ile			
	530	535	540
ctc tgc act tcc ccc ggg cat ctc gac aaa aag gaa ttg aaa gcc cta			2159
Leu Cys Thr Ser Pro Gly His Leu Asp Lys Lys Glu Leu Lys Ala Leu			
	545	550	555
aat agt gaa att ctc tgt cca ggt tta gta aat aac cca tcc atg cca			2207
Asn Ser Glu Ile Leu Cys Pro Gly Leu Val Asn Asn Pro Ser Met Pro			
	565	570	575
aca cag act agt tac ctt atg gtc acc act cct gca aca aca aca aat			2255
Thr Gln Thr Ser Tyr Leu Met Val Thr Thr Pro Ala Thr Thr Thr Asn			
	580	585	590
acg gct gat act att tta cga tct ctt acg gac gct gtg cca ctg tct			2303
Thr Ala Asp Thr Ile Leu Arg Ser Leu Thr Asp Ala Val Pro Leu Ser			
	595	600	605
gtt cta ata ttg gga ctt ctg att atg ttc atc act att gtt ttc tgt			2351
Val Leu Ile Leu Gly Leu Leu Ile Met Phe Ile Thr Ile Val Phe Cys			
	610	615	620
gct gca ggg ata gtg gtt ctt gtt ctt cac cgc agg aga aga tac aaa			2399
Ala Ala Gly Ile Val Val Leu Val Leu His Arg Arg Arg Tyr Lys			
	625	630	635
aag aaa caa gta gat gag caa atg aga gac aac agt cct gtg cat ctt			2447
Lys Lys Gln Val Asp Glu Gln Met Arg Asp Asn Ser Pro Val His Leu			
	645	650	655
cag tac agc atg tat ggc cat aaa acc act cat cac act act gaa aga			2495
Gln Tyr Ser Met Tyr Gly His Lys Thr Thr His His Thr Thr Glu Arg			
	660	665	670
ccc tct gcc tca ctc tat gaa cag cac atg gtg agc ccc atg gtt cat			2543
Pro Ser Ala Ser Leu Tyr Glu Gln His Met Val Ser Pro Met Val His			
	675	680	685
gtc tat aga agt cca tcc ttt ggt cca aag cat ctg gaa gag gaa gaa			2591
Val Tyr Arg Ser Pro Ser Phe Gly Pro Lys His Leu Glu Glu Glu Glu			
	690	695	700
gag agg aat gag aaa gaa gga agt gat gca aaa cat ctc caa aga agt			2639
Glu Arg Asn Glu Lys Glu Gly Ser Asp Ala Lys His Leu Gln Arg Ser			

705	710	715	720	
ctt ttg gaa cag gaa aat cat tca cca ctc aca ggg tca aat atg aaa				2687
Leu Leu Glu Gln Glu Asn His Ser Pro Leu Thr Gly Ser Asn Met Lys	725	730	735	
tac aaa acc acg aac caa tca aca gaa ttt tta tcc ttc caa gat gcc				2735
Tyr Lys Thr Thr Asn Gln Ser Thr Glu Phe Leu Ser Phe Gln Asp Ala	740	745	750	
agc tca ttg tac aga aac att tta gaa aaa gaa agg gaa ctt cag caa				2783
Ser Ser Leu Tyr Arg Asn Ile Leu Glu Lys Glu Arg Glu Leu Gln Gln	755	760	765	
ctg gga atc aca gaa tac cta agg aaa aac att gct cag ctc cag cct				2831
Leu Gly Ile Thr Glu Tyr Leu Arg Lys Asn Ile Ala Gln Leu Gln Pro	770	775	780	
gat atg gag gca cat tat cct gga gcc cac gaa gag ctg aag tta atg				2879
Asp Met Glu Ala His Tyr Pro Gly Ala His Glu Glu Leu Lys Leu Met	785	790	795	800
gaa aca tta atg tac tca cgt cca agg aag gta tta gtg gaa cag aca				2927
Glu Thr Leu Met Tyr Ser Arg Pro Arg Lys Val Leu Val Glu Gln Thr	805	810	815	
aaa aat gag tat ttt gaa ctt aaa gct aat tta cat gct gaa cct gac				2975
Lys Asn Glu Tyr Phe Glu Leu Lys Ala Asn Leu His Ala Glu Pro Asp	820	825	830	
tat tta gaa gtc ctg gag cag caa aca tag atggagagtt gagggctttc				3025
Tyr Leu Glu Val Leu Glu Gln Gln Thr *	835	840		
gcccagaaatg ctgtgattct gttattaagt ccataccttg taaataagtg ccttacgtga 3085				
gtgtgtcatc aatcagaacc taagcacaga gtaaactatg gggaaaaaaaa aagaagacga 3145				
aacagaaact cagggatcac tgggagaagc catggcataa tcttcaggca atttagtctg 3205				
tcccaaataa acatacatcc ttggcatgta aatcatcaag ggtaaatagta atattcatat 3265				
acctgaaacg tgtctcatag gagtctcttc tgcac 3300				

<210> 11  
 <211> 841  
 <212> PRT  
 <213> Homo sapiens

<400> 11  
 Met Lys Leu Trp Ile His Leu Phe Tyr Ser Ser Leu Leu Ala Cys Ile  
 1 5 10 15  
 Ser Leu His Ser Gln Thr Pro Val Leu Ser Ser Arg Gly Ser Cys Asp  
 20 25 30  
 Ser Leu Cys Asn Cys Glu Glu Lys Asp Gly Thr Met Leu Ile Asn Cys  
 35 40 45  
 Glu Ala Lys Gly Ile Lys Met Val Ser Glu Ile Ser Val Pro Pro Ser  
 50 55 60  
 Arg Pro Phe Gln Leu Ser Leu Leu Asn Asn Gly Leu Thr Met Leu His  
 65 70 75 80  
 Thr Asn Asp Phe Ser Gly Leu Thr Asn Ala Ile Ser Ile His Leu Gly  
 85 90 95  
 Phe Asn Asn Ile Ala Asp Ile Glu Ile Gly Ala Phe Asn Gly Leu Gly  
 100 105 110  
 Leu Leu Lys Gln Leu His Ile Asn His Asn Ser Leu Glu Ile Leu Lys  
 115 120 125  
 Glu Asp Thr Phe His Gly Leu Glu Asn Leu Glu Phe Leu Gln Ala Asp  
 130 135 140

Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn
145					150					155					160
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro
			165					170						175	
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly
		180						185					190		
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly
	195						200					205			
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys
	210					215					220				
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser
225					230					235					240
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser
				245					250					255	
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val
		260						265					270		
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr
	275						280						285		
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu
	290					295					300				
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro
305					310					315					320
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys
			325						330					335	
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile
		340						345					350		
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu	
	355						360				365				
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Asp	Leu	Val
	370					375					380				
Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu	Gly	Asn	Asn	Arg	Ile	Glu
385					390					395					400
Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu	Thr	Arg	Leu	Gln	Lys	Leu
				405					410					415	
Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu	Ser	Lys	Gly	Met	Phe	Leu
		420						425					430		
Gly	Leu	His	Asn	Leu	Glu	Tyr	Leu	Tyr	Leu	Glu	Tyr	Asn	Ala	Ile	Lys
	435						440					445			
Glu	Ile	Leu	Pro	Gly	Thr	Phe	Asn	Pro	Met	Pro	Lys	Leu	Lys	Val	Leu
	450					455					460				
Tyr	Leu	Asn	Asn	Asn	Leu	Leu	Gln	Val	Leu	Pro	Pro	His	Ile	Phe	Ser
465					470					475					480
Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys	Thr	Asn	Gln	Phe	Thr	His
				485					490					495	
Leu	Pro	Val	Ser	Asn	Ile	Leu	Asp	Asp	Leu	Asp	Leu	Leu	Thr	Gln	Ile
			500					505					510		
Asp	Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Ser	Cys	Asp	Leu	Val	Gly	Leu
	515						520					525			
Gln	Gln	Trp	Ile	Gln	Lys	Leu	Ser	Lys	Asn	Thr	Val	Thr	Asp	Asp	Ile
	530					535					540				
Leu	Cys	Thr	Ser	Pro	Gly	His	Leu	Asp	Lys	Lys	Glu	Leu	Lys	Ala	Leu
545					550					555					560
Asn	Ser	Glu	Ile	Leu	Cys	Pro	Gly	Leu	Val	Asn	Asn	Pro	Ser	Met	Pro
			565						570					575	
Thr	Gln	Thr	Ser	Tyr	Leu	Met	Val	Thr	Thr	Pro	Ala	Thr	Thr	Thr	Asn
		580						585					590		
Thr	Ala	Asp	Thr	Ile	Leu	Arg	Ser	Leu	Thr	Asp	Ala	Val	Pro	Leu	Ser
	595						600					605			
Val	Leu	Ile	Leu	Gly	Leu	Leu	Ile	Met	Phe	Ile	Thr	Ile	Val	Phe	Cys
	610					615					620				
Ala	Ala	Gly	Ile	Val	Val	Leu	Val	Leu	His	Arg	Arg	Arg	Arg	Tyr	Lys
625					630					635					640
Lys	Lys	Gln	Val	Asp	Glu	Gln	Met	Arg	Asp	Asn	Ser	Pro	Val	His	Leu
				645					650					655	





gca ttt aat ggc ctt ggc ctc ctg aaa caa ctt cat atc aat cac aat	388
Ala Phe Asn Gly Leu Gly Leu Leu Lys Gln Leu His Ile Asn His Asn	
110 115 120	
tct tta gaa att ctt aaa gag gat act ttc cat gga ctg gaa aac ctg	436
Ser Leu Glu Ile Leu Lys Glu Asp Thr Phe His Gly Leu Glu Asn Leu	
125 130 135	
gaa ttc ctg caa gca gat aac aat ttt atc aca gtg att gaa cca agt	484
Glu Phe Leu Gln Ala Asp Asn Asn Phe Ile Thr Val Ile Glu Pro Ser	
140 145 150	
gcc ttt agc aag ctc aac aga ctc aaa gtg tta att tta aat gac aat	532
Ala Phe Ser Lys Leu Asn Arg Leu Lys Val Leu Ile Leu Asn Asp Asn	
155 160 165 170	
gct att gag agt ctt cct cca aac atc ttc cga ttt gtt cct tta acc	580
Ala Ile Glu Ser Leu Pro Pro Asn Ile Phe Arg Phe Val Pro Leu Thr	
175 180 185	
cat cta gat ctt cgt gga aat caa tta caa aca ttg cct tat gtt ggt	628
His Leu Asp Leu Arg Gly Asn Gln Leu Gln Thr Leu Pro Tyr Val Gly	
190 195 200	
ttt ctc gaa cac att ggc cga ata ttg gat ctt cag ttg gag gac aac	676
Phe Leu Glu His Ile Gly Arg Ile Leu Asp Leu Gln Leu Glu Asp Asn	
205 210 215	
aaa tgg gcc tgc aat tgt gac tta ttg cag tta aaa act tgg ttg gag	724
Lys Trp Ala Cys Asn Cys Asp Leu Leu Gln Leu Lys Thr Trp Leu Glu	
220 225 230	
aac atg cct cca cag tct ata att ggt gat gtt gtc tgc aac agc cct	772
Asn Met Pro Pro Gln Ser Ile Ile Gly Asp Val Val Cys Asn Ser Pro	
235 240 245 250	
cca ttt ttt aaa gga agt ata ctc agt aga cta aag aag gaa tct att	820
Pro Phe Phe Lys Gly Ser Ile Leu Ser Arg Leu Lys Lys Glu Ser Ile	
255 260 265	
tgc cct act cca cca gtg tat gaa gaa cat gag gat cct tca gga tca	868
Cys Pro Thr Pro Pro Val Tyr Glu Glu His Glu Asp Pro Ser Gly Ser	
270 275 280	
tta cat ctg gca gca aca tct tca ata aat gat agt cgc atg tca act	916
Leu His Leu Ala Ala Thr Ser Ser Ile Asn Asp Ser Arg Met Ser Thr	
285 290 295	
aag acc acg tcc att cta aaa cta ccc acc aaa gca cca ggt ttg ata	964
Lys Thr Thr Ser Ile Leu Lys Leu Pro Thr Lys Ala Pro Gly Leu Ile	
300 305 310	
cct tat att aca aag cca tcc act caa ctt cca gga cct tac tgc cct	1012
Pro Tyr Ile Thr Lys Pro Ser Thr Gln Leu Pro Gly Pro Tyr Cys Pro	
315 320 325 330	
att cct tgt aac tgc aaa gtc cta tcc cca tca gga ctt cta ata cat	1060
Ile Pro Cys Asn Cys Lys Val Leu Ser Pro Ser Gly Leu Leu Ile His	
335 340 345	
tgt cag gag cgc aac att gaa agc tta tca gat ctg aga cct cct ccg	1108
Cys Gln Glu Arg Asn Ile Glu Ser Leu Ser Asp Leu Arg Pro Pro Pro	
350 355 360	

caa aat cct aga aag ctc att cta gcg gga aat att att cac agt tta	1156
Gln Asn Pro Arg Lys Leu Ile Leu Ala Gly Asn Ile Ile His Ser Leu	
365 370 375	
atg aat cca tcc ttt ggt cca aag cat ctg gaa gag gaa gaa gag agg	1204
Met Asn Pro Ser Phe Gly Pro Lys His Leu Glu Glu Glu Glu Arg	
380 385 390	
aat gag aaa gaa gga agt gat gca aaa cat ctc caa aga agt ctt ttg	1252
Asn Glu Lys Glu Gly Ser Asp Ala Lys His Leu Gln Arg Ser Leu Leu	
395 400 405 410	
gaa cag gaa aat cat tca cca ctc aca ggg tca aat atg aaa tac aaa	1300
Glu Gln Glu Asn His Ser Pro Leu Thr Gly Ser Asn Met Lys Tyr Lys	
415 420 425	
acc acg aac caa tca aca gaa ttt tta tcc ttc caa gat gcc agc tca	1348
Thr Thr Asn Gln Ser Thr Glu Phe Leu Ser Phe Gln Asp Ala Ser Ser	
430 435 440	
ttg tac aga aac att tta gaa aaa gaa agg gaa ctt cag caa ctg gga	1396
Leu Tyr Arg Asn Ile Leu Glu Lys Glu Arg Glu Leu Gln Gln Leu Gly	
445 450 455	
atc aca gaa tac cta agg aaa aac att gct cag ctc cag cct gat atg	1444
Ile Thr Glu Tyr Leu Arg Lys Asn Ile Ala Gln Leu Gln Pro Asp Met	
460 465 470	
gag gca cat tat cct gga gcc cac gaa gag ctg aag tta atg gaa aca	1492
Glu Ala His Tyr Pro Gly Ala His Glu Glu Leu Lys Leu Met Glu Thr	
475 480 485 490	
tta atg tac tca cgt cca agg aag gta tta gtg gaa cag aca aaa aat	1540
Leu Met Tyr Ser Arg Pro Arg Lys Val Leu Val Glu Gln Thr Lys Asn	
495 500 505	
gag tat ttt gaa ctt aaa gct aat tta cat gct gaa cct gac tat tta	1588
Glu Tyr Phe Glu Leu Lys Ala Asn Leu His Ala Glu Pro Asp Tyr Leu	
510 515 520	
gaa gtc ctg gag cag caa aca tag atggaga	1619
Glu Val Leu Glu Gln Gln Thr *	
525	

<210> 13  
 <211> 529  
 <212> PRT  
 <213> Homo sapiens

<400> 13  
 Met Lys Leu Trp Ile His Leu Phe Tyr Ser Ser Leu Leu Ala Cys Ile  
 1 5 10 15  
 Ser Leu His Ser Gln Thr Pro Val Leu Ser Ser Arg Gly Ser Cys Asp  
 20 25 30  
 Ser Leu Cys Asn Cys Glu Glu Lys Asp Gly Thr Met Leu Ile Asn Cys  
 35 40 45  
 Glu Ala Lys Gly Ile Lys Met Val Ser Glu Ile Ser Val Pro Pro Ser  
 50 55 60  
 Arg Pro Phe Gln Leu Ser Leu Leu Asn Asn Gly Leu Thr Met Leu His  
 65 70 75 80  
 Thr Asn Asp Phe Ser Gly Leu Thr Asn Ala Ile Ser Ile His Leu Gly  
 85 90 95  
 Phe Asn Asn Ile Ala Asp Ile Glu Ile Gly Ala Phe Asn Gly Leu Gly

			100					105					110			
Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys	
		115					120					125				
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp	
	130					135					140					
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn	
145					150				155						160	
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro	
			165						170						175	
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly	
		180					185						190			
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly	
	195					200						205				
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys	
	210				215						220					
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser	
225					230					235					240	
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser	
			245						250					255		
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val	
		260					265						270			
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr	
	275					280						285				
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu	
	290				295						300					
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro	
305					310					315					320	
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys	
			325					330						335		
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile	
		340					345						350			
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu	
	355						360					365				
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Asn	Pro	Ser	Phe	Gly	
	370				375						380					
Pro	Lys	His	Leu	Glu	Glu	Glu	Glu	Arg	Asn	Glu	Lys	Glu	Gly	Ser		
385					390				395					400		
Asp	Ala	Lys	His	Leu	Gln	Arg	Ser	Leu	Leu	Glu	Gln	Glu	Asn	His	Ser	
			405					410						415		
Pro	Leu	Thr	Gly	Ser	Asn	Met	Lys	Tyr	Lys	Thr	Thr	Asn	Gln	Ser	Thr	
		420						425					430			
Glu	Phe	Leu	Ser	Phe	Gln	Asp	Ala	Ser	Ser	Leu	Tyr	Arg	Asn	Ile	Leu	
	435					440						445				
Glu	Lys	Glu	Arg	Glu	Leu	Gln	Leu	Gly	Ile	Thr	Glu	Tyr	Leu	Arg		
	450					455				460						
Lys	Asn	Ile	Ala	Gln	Leu	Gln	Pro	Asp	Met	Glu	Ala	His	Tyr	Pro	Gly	
465					470				475					480		
Ala	His	Glu	Glu	Leu	Lys	Leu	Met	Glu	Thr	Leu	Met	Tyr	Ser	Arg	Pro	
			485					490						495		
Arg	Lys	Val	Leu	Val	Glu	Gln	Thr	Lys	Asn	Glu	Tyr	Phe	Glu	Leu	Lys	
		500					505						510			
Ala	Asn	Leu	His	Ala	Glu	Pro	Asp	Tyr	Leu	Glu	Val	Leu	Glu	Gln	Gln	
	515						520					525				

Thr

<210> 14  
 <211> 841  
 <212> PRT  
 <213> Homo sapiens

<400> 14  
 Met Lys Leu Trp Ile His Leu Phe Tyr Ser Ser Leu Leu Ala Cys Ile

1				5					10					15			
Ser	Leu	His	Ser	Gln	Thr	Pro	Val	Leu	Ser	Ser	Arg	Gly	Ser	Cys	Asp		
			20					25					30				
Ser	Leu	Cys	Asn	Cys	Glu	Glu	Lys	Asp	Gly	Thr	Met	Leu	Ile	Asn	Cys		
		35					40					45					
Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile	Ser	Val	Pro	Pro	Ser		
	50					55					60						
Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly	Leu	Thr	Met	Leu	His		
65				70						75					80		
Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile	Ser	Ile	His	Leu	Gly		
				85					90					95			
Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala	Phe	Asn	Gly	Leu	Gly		
			100					105					110				
Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys		
		115					120					125					
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp		
	130					135					140						
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn		
145				150						155					160		
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro		
			165					170						175			
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly		
			180					185					190				
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly		
	195						200					205					
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys		
	210					215					220						
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser		
225				230						235					240		
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser		
			245						250					255			
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val		
		260						265					270				
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr		
	275						280					285					
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu		
	290					295					300						
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro		
305				310						315					320		
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys		
			325						330					335			
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile		
		340						345					350				
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu		
	355						360					365					
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Asp	Leu	Val		
	370					375					380						
Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu	Gly	Asn	Asn	Arg	Ile	Glu		
385				390						395					400		
Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu	Thr	Arg	Leu	Gln	Lys	Leu		
			405						410					415			
Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu	Ser	Lys	Gly	Met	Phe	Leu		
		420						425					430				
Gly	Leu	His	Asn	Leu	Glu	Tyr	Leu	Tyr	Leu	Glu	Tyr	Asn	Ala	Ile	Lys		
	435						440					445					
Glu	Ile	Leu	Pro	Gly	Thr	Phe	Asn	Pro	Met	Pro	Lys	Leu	Lys	Val	Leu		
	450					455					460						
Tyr	Leu	Asn	Asn	Asn	Leu	Leu	Gln	Val	Leu	Pro	Pro	His	Ile	Phe	Ser		
465				470						475					480		
Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys	Thr	Asn	Gln	Phe	Thr	His		
			485						490					495			
Leu	Pro	Val	Ser	Asn	Ile	Leu	Asp	Asp	Leu	Asp	Leu	Leu	Thr	Gln	Ile		
			500					505					510				
Asp	Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Ser	Cys	Asp	Leu	Val	Gly	Leu		



		115					120					125					
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp		
	130					135					140						
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn		
145					150					155					160		
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro		
				165				170						175			
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly		
			180					185					190				
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly		
	195						200					205					
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys		
	210				215						220						
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser		
225					230					235					240		
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser		
				245					250					255			
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val		
			260					265					270				
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr		
	275					280						285					
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu		
	290				295						300						
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro		
305					310					315					320		
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys		
				325					330					335			
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile		
			340					345					350				
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu		
	355						360					365					
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Asp	Leu	Val		
	370				375						380						
Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu	Gly	Asn	Asn	Arg	Ile	Glu		
385					390					395					400		
Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu	Thr	Arg	Leu	Gln	Lys	Leu		
				405					410					415			
Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu	Ser	Lys	Gly	Met	Phe	Leu		
			420					425					430				
Gly	Leu	His	Asn	Leu	Glu	Tyr	Leu	Tyr	Leu	Glu	Tyr	Asn	Ala	Ile	Lys		
	435					440						445					
Glu	Ile	Leu	Pro	Gly	Thr	Phe	Asn	Pro	Met	Pro	Lys	Leu	Lys	Val	Leu		
	450					455					460						
Tyr	Leu	Asn	Asn	Asn	Leu	Gln	Val	Leu	Pro	Pro	His	Ile	Phe	Ser			
465					470				475					480			
Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys	Thr	Asn	Gln	Phe	Thr	His		
				485					490					495			
Leu	Pro	Val	Ser	Asn	Ile	Leu	Asp	Asp	Leu	Asp	Leu	Leu	Thr	Gln	Ile		
			500					505					510				
Asp	Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Ser	Cys	Asp	Leu	Val	Gly	Leu		
	515						520					525					
Gln	Gln	Trp	Ile	Gln	Lys	Leu	Ser	Lys	Asn	Thr	Val	Thr	Asp	Asp	Ile		
	530					535					540						
Leu	Cys	Thr	Ser	Pro	Gly	His	Leu	Asp	Lys	Lys	Glu	Leu	Lys	Ala	Leu		
545					550					555					560		
Asn	Ser	Glu	Ile	Leu	Cys	Pro	Gly	Leu	Val	Asn	Asn	Pro	Ser	Met	Pro		
				565					570					575			
Thr	Gln	Thr	Ser	Tyr	Leu	Met	Val	Thr	Thr	Pro	Ala	Thr	Thr	Thr	Asn		
			580					585					590				
Thr	Ala	Asp	Thr	Ile	Leu	Arg	Ser	Leu	Thr	Asp	Ala	Val	Pro	Leu	Ser		
	595						600					605					
Val	Leu	Ile	Leu	Gly	Leu	Leu	Ile	Met	Phe	Ile	Thr	Ile	Val	Phe	Cys		
	610				615						620						
Ala	Ala	Gly	Ile	Val	Val	Leu	Val	Leu	His	Arg	Arg	Arg	Arg	Tyr	Lys		

625					630					635					640
Lys	Lys	Gln	Val	Asp	Glu	Gln	Met	Arg	Asp	Asn	Ser	Pro	Val	His	Leu
				645					650					655	
Gln	Tyr	Ser	Met	Tyr	Gly	His	Lys	Thr	Thr	His	His	Thr	Thr	Glu	Arg
			660					665					670		
Pro	Ser	Ala	Ser	Leu	Tyr	Glu	Gln	His	Met	Gly	Ala	His	Glu	Glu	Leu
		675					680					685			
Lys	Leu	Met	Glu	Thr	Leu	Met	Tyr	Ser	Arg	Pro	Arg	Lys	Val	Leu	Val
	690					695					700				
Glu	Gln	Thr	Lys	Asn	Glu	Tyr	Phe	Glu	Leu	Lys	Ala	Asn	Leu	His	Ala
705					710					715					720
Glu	Pro	Asp	Tyr	Leu	Glu	Val	Leu	Glu	Gln	Gln	Thr				
				725					730						

<210> 16  
 <211> 390  
 <212> PRT  
 <213> Homo sapiens

<400> 16

Met	Lys	Leu	Trp	Ile	His	Leu	Phe	Tyr	Ser	Ser	Leu	Leu	Ala	Cys	Ile
1				5					10					15	
Ser	Leu	His	Ser	Gln	Thr	Pro	Val	Leu	Ser	Ser	Arg	Gly	Ser	Cys	Asp
			20					25					30		
Ser	Leu	Cys	Asn	Cys	Glu	Glu	Lys	Asp	Gly	Thr	Met	Leu	Ile	Asn	Cys
		35					40					45			
Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile	Ser	Val	Pro	Pro	Ser
	50					55					60				
Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly	Leu	Thr	Met	Leu	His
65				70					75						80
Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile	Ser	Ile	His	Leu	Gly
			85					90					95		
Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala	Phe	Asn	Gly	Leu	Gly
			100				105						110		
Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys
		115				120						125			
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp
	130					135					140				
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn
145					150				155						160
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro
			165					170						175	
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly
		180					185						190		
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly
		195				200						205			
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys
	210				215						220				
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser
225					230					235					240
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser
			245						250					255	
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val
		260					265						270		
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr
	275					280						285			
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu
	290				295						300				
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro
305					310					315					320
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys
			325					330						335	
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile



		340						345					350				
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu		
		355					360					365					
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Ile	Leu	Trp		
		370				375					380						
Ser	Lys	Ala	Ser	Gly	Arg												
385					390												

<210> 17  
 <211> 529  
 <212> PRT  
 <213> Homo sapiens

<400> 17

Met	Lys	Leu	Trp	Ile	His	Leu	Phe	Tyr	Ser	Ser	Leu	Leu	Ala	Cys	Ile		
1				5					10					15			
Ser	Leu	His	Ser	Gln	Thr	Pro	Val	Leu	Ser	Ser	Arg	Gly	Ser	Cys	Asp		
			20					25					30				
Ser	Leu	Cys	Asn	Cys	Glu	Glu	Lys	Asp	Gly	Thr	Met	Leu	Ile	Asn	Cys		
		35					40					45					
Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile	Ser	Val	Pro	Pro	Ser		
	50					55					60						
Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly	Leu	Thr	Met	Leu	His		
65					70				75						80		
Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile	Ser	Ile	His	Leu	Gly		
			85					90						95			
Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala	Phe	Asn	Gly	Leu	Gly		
			100					105					110				
Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys		
		115					120						125				
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp		
	130					135					140						
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn		
145					150					155					160		
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro		
			165					170						175			
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly		
			180					185						190			
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly		
	195						200						205				
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys		
	210					215					220						
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser		
225					230					235					240		
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser		
			245					250						255			
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val		
			260					265						270			
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr		
	275						280						285				
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu		
	290					295					300						
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro		
305					310					315					320		
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys		
			325					330						335			
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile		
			340					345					350				
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu		
	355						360					365					
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Asn	Pro	Ser	Phe	Gly		
	370					375					380						
Pro	Lys	His	Leu	Glu	Glu	Glu	Glu	Glu	Arg	Asn	Glu	Lys	Glu	Gly	Ser		

385					390					395					400
Asp	Ala	Lys	His	Leu	Gln	Arg	Ser	Leu	Leu	Glu	Gln	Glu	Asn	His	Ser
				405					410					415	
Pro	Leu	Thr	Gly	Ser	Asn	Met	Lys	Tyr	Lys	Thr	Thr	Asn	Gln	Ser	Thr
			420					425					430		
Glu	Phe	Leu	Ser	Phe	Gln	Asp	Ala	Ser	Ser	Leu	Tyr	Arg	Asn	Ile	Leu
		435					440					445			
Glu	Lys	Glu	Arg	Glu	Leu	Gln	Gln	Leu	Gly	Ile	Thr	Glu	Tyr	Leu	Arg
	450					455					460				
Lys	Asn	Ile	Ala	Gln	Leu	Gln	Pro	Asp	Met	Glu	Ala	His	Tyr	Pro	Gly
465					470					475					480
Ala	His	Glu	Glu	Leu	Lys	Leu	Met	Glu	Thr	Leu	Met	Tyr	Ser	Arg	Pro
				485				490						495	
Arg	Lys	Val	Leu	Val	Glu	Gln	Thr	Lys	Asn	Glu	Tyr	Phe	Glu	Leu	Lys
			500					505					510		
Ala	Asn	Leu	His	Ala	Glu	Pro	Asp	Tyr	Leu	Glu	Val	Leu	Glu	Gln	Gln
		515					520					525			
Thr															

<210> 18  
 <211> 798  
 <212> PRT  
 <213> Homo sapiens

<400> 18

Met	Leu	Ile	Asn	Cys	Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile
1				5					10					15	
Ser	Val	Pro	Pro	Ser	Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly
			20					25					30		
Leu	Thr	Met	Leu	His	Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile
		35				40						45			
Ser	Ile	His	Leu	Gly	Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala
	50					55					60				
Phe	Asn	Gly	Leu	Gly	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	
65					70				75					80	
Leu	Glu	Ile	Leu	Lys	Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu
			85					90						95	
Phe	Leu	Gln	Ala	Asp	Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala
			100					105					110		
Phe	Ser	Lys	Leu	Asn	Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala
		115					120					125			
Ile	Glu	Ser	Leu	Pro	Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His
	130					135					140				
Leu	Asp	Leu	Arg	Gly	Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe
145					150					155					160
Leu	Glu	His	Ile	Gly	Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys
				165				170						175	
Trp	Ala	Cys	Asn	Cys	Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn
			180					185					190		
Met	Pro	Pro	Gln	Ser	Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro
		195					200					205			
Phe	Phe	Lys	Gly	Ser	Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys
	210					215					220				
Pro	Thr	Pro	Pro	Val	Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu
225					230					235					240
His	Leu	Ala	Ala	Thr	Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys
				245					250					255	
Thr	Thr	Ser	Ile	Leu	Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro
			260					265					270		
Tyr	Ile	Thr	Lys	Pro	Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile
		275					280					285			
Pro	Cys	Asn	Cys	Lys	Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys

290		295		300
Gln Glu Arg Asn Ile Glu Ser Leu Ser Asp Leu Arg Pro Pro Pro Gln				
305		310		315
Asn Pro Arg Lys Leu Ile Leu Ala Gly Asn Ile Ile His Ser Leu Met				
	325		330	335
Lys Ser Asp Leu Val Glu Tyr Phe Thr Leu Glu Met Leu His Leu Gly				
	340		345	350
Asn Asn Arg Ile Glu Val Leu Glu Gly Ser Phe Met Asn Leu Thr				
	355		360	365
Arg Leu Gln Lys Leu Tyr Leu Asn Gly Asn His Leu Thr Lys Leu Ser				
	370		375	380
Lys Gly Met Phe Leu Gly Leu His Asn Leu Glu Tyr Leu Tyr Leu Glu				
385		390		395
Tyr Asn Ala Ile Lys Glu Ile Leu Pro Gly Thr Phe Asn Pro Met Pro				
	405		410	415
Lys Leu Lys Val Leu Tyr Leu Asn Asn Asn Leu Leu Gln Val Leu Pro				
	420		425	430
Pro His Ile Phe Ser Gly Val Pro Leu Thr Lys Val Asn Leu Lys Thr				
	435		440	445
Asn Gln Phe Thr His Leu Pro Val Ser Asn Ile Leu Asp Asp Leu Asp				
	450		455	460
Leu Leu Thr Gln Ile Asp Leu Glu Asp Asn Pro Trp Asp Cys Ser Cys				
465		470		475
Asp Leu Val Gly Leu Gln Gln Trp Ile Gln Lys Leu Ser Lys Asn Thr				
	485		490	495
Val Thr Asp Asp Ile Leu Cys Thr Ser Pro Gly His Leu Asp Lys Lys				
	500		505	510
Glu Leu Lys Ala Leu Asn Ser Glu Ile Leu Cys Pro Gly Leu Val Asn				
	515		520	525
Asn Pro Ser Met Pro Thr Gln Thr Ser Tyr Leu Met Val Thr Thr Pro				
	530		535	540
Ala Thr Thr Thr Asn Thr Ala Asp Thr Ile Leu Arg Ser Leu Thr Asp				
545		550		555
Ala Val Pro Leu Ser Val Leu Ile Leu Gly Leu Leu Ile Met Phe Ile				
	565		570	575
Thr Ile Val Phe Cys Ala Ala Gly Ile Val Val Leu Val Leu His Arg				
	580		585	590
Arg Arg Arg Tyr Lys Lys Lys Gln Val Asp Glu Gln Met Arg Asp Asn				
	595		600	605
Ser Pro Val His Leu Gln Tyr Ser Met Tyr Gly His Lys Thr Thr His				
	610		615	620
His Thr Thr Glu Arg Pro Ser Ala Ser Leu Tyr Glu Gln His Met Val				
625		630		635
Ser Pro Met Val His Val Tyr Arg Ser Pro Ser Phe Gly Pro Lys His				
	645		650	655
Leu Glu Glu Glu Glu Glu Arg Asn Glu Lys Glu Gly Ser Asp Ala Lys				
	660		665	670
His Leu Gln Arg Ser Leu Leu Glu Gln Glu Asn His Ser Pro Leu Thr				
	675		680	685
Gly Ser Asn Met Lys Tyr Lys Thr Thr Asn Gln Ser Thr Glu Phe Leu				
	690		695	700
Ser Phe Gln Asp Ala Ser Ser Leu Tyr Arg Asn Ile Leu Glu Lys Glu				
705		710		715
Arg Glu Leu Gln Gln Leu Gly Ile Thr Glu Tyr Leu Arg Lys Asn Ile				
	725		730	735
Ala Gln Leu Gln Pro Asp Met Glu Ala His Tyr Pro Gly Ala His Glu				
	740		745	750
Glu Leu Lys Leu Met Glu Thr Leu Met Tyr Ser Arg Pro Arg Lys Val				
	755		760	765
Leu Val Glu Gln Thr Lys Asn Glu Tyr Phe Glu Leu Lys Ala Asn Leu				
	770		775	780
His Ala Glu Pro Asp Tyr Leu Glu Val Leu Glu Gln Gln Thr				
785		790		795

<210> 19  
 <211> 798  
 <212> PRT  
 <213> Homo sapiens

<400> 19  
 Met Leu Ile Asn Cys Glu Ala Lys Gly Ile Lys Met Val Ser Glu Ile  
 1 5 10 15  
 Ser Val Pro Pro Ser Arg Pro Phe Gln Leu Ser Leu Leu Asn Asn Gly  
 20 25 30  
 Leu Thr Met Leu His Thr Asn Asp Phe Ser Gly Leu Thr Asn Ala Ile  
 35 40 45  
 Ser Ile His Leu Gly Phe Asn Asn Ile Ala Asp Ile Glu Ile Gly Ala  
 50 55 60  
 Phe Asn Gly Leu Gly Leu Leu Lys Gln Leu His Ile Asn His Asn Ser  
 65 70 75 80  
 Leu Glu Ile Leu Lys Glu Asp Thr Phe His Gly Leu Glu Asn Leu Glu  
 85 90 95  
 Phe Leu Gln Ala Asp Asn Asn Phe Ile Thr Val Ile Glu Pro Ser Ala  
 100 105 110  
 Phe Ser Lys Leu Asn Arg Leu Lys Val Leu Ile Leu Asn Asp Asn Ala  
 115 120 125  
 Ile Glu Ser Leu Pro Pro Asn Ile Phe Arg Phe Val Pro Leu Thr His  
 130 135 140  
 Leu Asp Leu Arg Gly Asn Gln Leu Gln Thr Leu Pro Tyr Val Gly Phe  
 145 150 155 160  
 Leu Glu His Ile Gly Arg Ile Leu Asp Leu Gln Leu Glu Asp Asn Lys  
 165 170 175  
 Trp Ala Cys Asn Cys Asp Leu Leu Gln Leu Lys Thr Trp Leu Glu Asn  
 180 185 190  
 Met Pro Pro Gln Ser Ile Ile Gly Asp Val Val Cys Asn Ser Pro Pro  
 195 200 205  
 Phe Phe Lys Gly Ser Ile Leu Ser Arg Leu Lys Lys Glu Ser Ile Cys  
 210 215 220  
 Pro Thr Pro Pro Val Tyr Glu Glu His Glu Asp Pro Ser Gly Ser Leu  
 225 230 235 240  
 His Leu Ala Ala Thr Ser Ser Ile Asn Asp Ser Arg Met Ser Thr Lys  
 245 250 255  
 Thr Thr Ser Ile Leu Lys Leu Pro Thr Lys Ala Pro Gly Leu Ile Pro  
 260 265 270  
 Tyr Ile Thr Lys Pro Ser Thr Gln Leu Pro Gly Pro Tyr Cys Pro Ile  
 275 280 285  
 Pro Cys Asn Cys Lys Val Leu Ser Pro Ser Gly Leu Leu Ile His Cys  
 290 295 300  
 Gln Glu Arg Asn Ile Glu Ser Leu Ser Asp Leu Arg Pro Pro Pro Gln  
 305 310 315 320  
 Asn Pro Arg Lys Leu Ile Leu Ala Gly Asn Ile Ile His Ser Leu Met  
 325 330 335  
 Lys Ser Asp Leu Val Glu Tyr Phe Thr Leu Glu Met Leu His Leu Gly  
 340 345 350  
 Asn Asn Arg Ile Glu Val Leu Glu Glu Gly Ser Phe Met Asn Leu Thr  
 355 360 365  
 Arg Leu Gln Lys Leu Tyr Leu Asn Gly Asn His Leu Thr Lys Leu Ser  
 370 375 380  
 Lys Gly Met Phe Leu Gly Leu His Asn Leu Glu Tyr Leu Tyr Leu Glu  
 385 390 395 400  
 Tyr Asn Ala Ile Lys Glu Ile Leu Pro Gly Thr Phe Asn Pro Met Pro  
 405 410 415  
 Lys Leu Lys Val Leu Tyr Leu Asn Asn Asn Leu Leu Gln Val Leu Pro  
 420 425 430  
 Pro His Ile Phe Ser Gly Val Pro Leu Thr Lys Val Asn Leu Lys Thr  
 435 440 445  
 Asn Gln Phe Thr His Leu Pro Val Ser Asn Ile Leu Asp Asp Leu Asp

450	455	460
Leu Leu Thr Gln Ile Asp	Leu Glu Asp Asn Pro Trp Asp Cys Ser Cys	
465	470	475
Asp Leu Val Gly Leu Gln Gln Trp Ile Gln Lys Leu Ser Lys Asn Thr		480
	485	490
Val Thr Asp Asp Ile Leu Cys Thr Ser Pro Gly His Leu Asp Lys Lys		495
	500	505
Glu Leu Lys Ala Leu Asn Ser Glu Ile Leu Cys Pro Gly Leu Val Asn		510
	515	520
Asn Pro Ser Met Pro Thr Gln Thr Ser Tyr Leu Met Val Thr Thr Pro		525
	530	535
Ala Thr Thr Thr Asn Thr Ala Asp Thr Ile Leu Arg Ser Leu Thr Asp		540
545	550	555
Ala Val Pro Leu Ser Val Leu Ile Leu Gly Leu Leu Ile Met Phe Ile		560
	565	570
Thr Ile Val Phe Cys Ala Ala Gly Ile Val Val Leu Val Leu His Arg		575
	580	585
Arg Arg Arg Tyr Lys Lys Lys Gln Val Asp Glu Gln Met Arg Asp Asn		590
	595	600
Ser Pro Val His Leu Gln Tyr Ser Met Tyr Gly His Lys Thr Thr His		605
	610	615
His Thr Thr Glu Arg Pro Ser Ala Ser Leu Tyr Glu Gln His Met Val		620
625	630	635
Ser Pro Met Val His Val Tyr Arg Ser Pro Ser Phe Gly Pro Lys His		640
	645	650
Leu Glu Glu Glu Glu Glu Arg Asn Glu Lys Glu Gly Ser Asp Ala Lys		655
	660	665
His Leu Gln Arg Ser Leu Leu Glu Gln Glu Asn His Ser Pro Leu Thr		670
	675	680
Gly Ser Asn Met Lys Tyr Lys Thr Thr Asn Gln Ser Thr Glu Phe Leu		685
	690	695
Ser Phe Gln Asp Ala Ser Ser Leu Tyr Arg Asn Ile Leu Glu Lys Glu		700
705	710	715
Arg Glu Leu Gln Gln Leu Gly Ile Thr Glu Tyr Leu Arg Lys Asn Ile		720
	725	730
Ala Gln Leu Gln Pro Asp Met Glu Ala His Tyr Pro Gly Ala His Glu		735
	740	745
Glu Leu Lys Leu Met Glu Thr Leu Met Tyr Ser Arg Pro Arg Lys Val		750
	755	760
Leu Val Glu Gln Thr Lys Asn Glu Tyr Phe Glu Leu Lys Ala Asn Leu		765
	770	775
His Ala Glu Pro Asp Tyr Leu Glu Val Leu Glu Gln Gln Thr		780
785	790	795

<210> 20  
 <211> 405  
 <212> PRT  
 <213> Homo sapiens

<400> 20  
 Met Leu Ile Asn Cys Glu Ala Lys Gly Ile Lys Met Val Ser Glu Ile  
 1 5 10 15  
 Ser Val Pro Pro Ser Arg Pro Phe Gln Leu Ser Leu Leu Asn Asn Gly  
 20 25 30  
 Leu Thr Met Leu His Thr Asn Asp Phe Ser Gly Leu Thr Asn Ala Ile  
 35 40 45  
 Ser Ile His Leu Gly Phe Asn Asn Ile Ala Asp Ile Glu Ile Gly Ala  
 50 55 60  
 Phe Asn Gly Leu Gly Leu Leu Lys Gln Leu His Ile Asn His Asn Ser  
 65 70 75 80  
 Leu Glu Ile Leu Lys Glu Asp Thr Phe His Gly Leu Glu Asn Leu Glu  
 85 90 95  
 Phe Leu Gln Ala Asp Asn Asn Phe Ile Thr Val Ile Glu Pro Ser Ala

			100					105					110				
Phe	Ser	Lys	Leu	Asn	Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala		
		115					120					125					
Ile	Glu	Ser	Leu	Pro	Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His		
	130					135					140						
Leu	Asp	Leu	Arg	Gly	Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe		
145					150					155					160		
Leu	Glu	His	Ile	Gly	Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys		
			165					170						175			
Trp	Ala	Cys	Asn	Cys	Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn		
			180					185					190				
Met	Pro	Pro	Gln	Ser	Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro		
		195					200					205					
Phe	Phe	Lys	Gly	Ser	Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys		
	210					215					220						
Pro	Thr	Pro	Pro	Val	Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu		
225					230					235					240		
His	Leu	Ala	Ala	Thr	Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys		
				245				250						255			
Thr	Thr	Ser	Ile	Leu	Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro		
			260					265						270			
Tyr	Ile	Thr	Lys	Pro	Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile		
	275						280					285					
Pro	Cys	Asn	Cys	Lys	Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys		
	290					295				300							
Gln	Glu	Arg	Asn	Ile	Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln		
305					310					315					320		
Asn	Pro	Arg	Lys	Leu	Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met		
				325				330						335			
Lys	Ser	Asp	Leu	Val	Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu	Gly		
			340					345					350				
Asn	Asn	Arg	Ile	Glu	Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu	Thr		
	355						360					365					
Arg	Leu	Gln	Lys	Leu	Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu	Ser		
	370					375					380						
Lys	Gly	Met	Phe	Leu	Gly	Leu	His	Ala	Ile	Lys	Glu	Ile	Leu	Pro	Gly		
385					390					395					400		
Thr	Phe	Asn	Pro	Met													
				405													

<210> 21  
 <211> 415  
 <212> PRT  
 <213> Homo sapiens

<400> 21

Met	Leu	Ile	Asn	Cys	Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile		
1				5				10						15			
Ser	Val	Pro	Pro	Ser	Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly		
		20						25					30				
Leu	Thr	Met	Leu	His	Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile		
	35					40						45					
Ser	Ile	His	Leu	Gly	Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala		
	50					55				60							
Phe	Asn	Gly	Leu	Gly	Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser		
65					70					75					80		
Leu	Glu	Ile	Leu	Lys	Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu		
			85					90						95			
Phe	Leu	Gln	Ala	Asp	Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala		
		100						105					110				
Phe	Ser	Lys	Leu	Asn	Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala		
	115						120					125					
Ile	Glu	Ser	Leu	Pro	Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His		

130		135		140
Leu Asp Leu Arg Gly Asn Gln Leu Gln Thr Leu Pro Tyr Val Gly Phe				
145		150		155
Leu Glu His Ile Gly Arg Ile Leu Asp Leu Gln Leu Glu Asp Asn Lys				
	165		170	175
Trp Ala Cys Asn Cys Asp Leu Leu Gln Leu Lys Thr Trp Leu Glu Asn				
	180		185	190
Met Pro Pro Gln Ser Ile Ile Gly Asp Val Val Cys Asn Ser Pro Pro				
	195		200	205
Phe Phe Lys Gly Ser Ile Leu Ser Arg Leu Lys Lys Glu Ser Ile Cys				
	210		215	220
Pro Thr Pro Pro Val Tyr Glu Glu His Glu Asp Pro Ser Gly Ser Leu				
225		230		235
His Leu Ala Ala Thr Ser Ser Ile Asn Asp Ser Arg Met Ser Thr Lys				
	245		250	255
Thr Thr Ser Ile Leu Lys Leu Pro Thr Lys Ala Pro Gly Leu Ile Pro				
	260		265	270
Tyr Ile Thr Lys Pro Ser Thr Gln Leu Pro Gly Pro Tyr Cys Pro Ile				
	275		280	285
Pro Cys Asn Cys Lys Val Leu Ser Pro Ser Gly Leu Leu Ile His Cys				
	290		295	300
Gln Glu Arg Asn Ile Glu Ser Leu Ser Asp Leu Arg Pro Pro Pro Gln				
305		310		315
Asn Pro Arg Lys Leu Ile Leu Ala Gly Asn Ile Ile His Ser Leu Met				
	325		330	335
Lys Ser Asp Leu Val Glu Tyr Phe Thr Leu Glu Met Leu His Leu Gly				
	340		345	350
Asn Asn Arg Ile Glu Val Leu Glu Glu Gly Ser Phe Met Asn Leu Thr				
	355		360	365
Arg Leu Gln Lys Leu Tyr Leu Asn Gly Asn His Leu Thr Lys Leu Ser				
	370		375	380
Lys Gly Met Phe Leu Gly Leu His Asn Leu Glu Tyr Leu Tyr Leu Glu				
385		390		395
Tyr Asn Ala Ile Lys Glu Ile Leu Pro Gly Thr Phe Asn Pro Met				
	405		410	415

<210> 22  
 <211> 777  
 <212> PRT  
 <213> Homo sapiens

<400> 22

Met Lys Leu Trp Ile His Leu Phe Tyr Ser Ser Leu Leu Ala Cys Ile	
1	5
Ser Leu His Ser Gln Thr Pro Val Leu Ser Ser Arg Gly Ser Cys Asp	
	20
Ser Leu Cys Asn Cys Glu Glu Lys Asp Gly Thr Met Leu Ile Asn Cys	
	35
Glu Ala Lys Gly Ile Lys Met Val Ser Glu Ile Ser Val Pro Pro Ser	
	50
Arg Pro Phe Gln Leu Ser Leu Leu Asn Asn Gly Leu Thr Met Leu His	
65	70
Thr Asn Asp Phe Ser Gly Leu Thr Asn Ala Ile Ser Ile His Leu Gly	
	85
Phe Asn Asn Ile Ala Asp Ile Glu Ile Gly Ala Phe Asn Gly Leu Gly	
	100
Leu Leu Lys Gln Leu His Ile Asn His Asn Ser Leu Glu Ile Leu Lys	
	115
Glu Asp Thr Phe His Gly Leu Glu Asn Leu Glu Phe Leu Gln Ala Asp	
	130
Asn Asn Phe Ile Thr Val Ile Glu Pro Ser Ala Phe Ser Lys Leu Asn	
145	150
Arg Leu Lys Val Leu Ile Leu Asn Asp Asn Ala Ile Glu Ser Leu Pro	

				165					170					175			
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly		
			180					185					190				
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly		
		195					200					205					
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys		
	210				215						220						
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser		
225					230					235					240		
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser		
			245						250					255			
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val		
		260						265					270				
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr		
	275						280						285				
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu		
	290					295					300						
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro		
305					310					315					320		
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys		
			325						330					335			
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile		
		340						345					350				
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu		
	355						360					365					
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Asp	Leu	Val		
	370				375						380						
Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu	Gly	Asn	Asn	Arg	Ile	Glu		
385					390					395					400		
Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu	Thr	Arg	Leu	Gln	Lys	Leu		
			405						410					415			
Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu	Ser	Lys	Gly	Met	Phe	Leu		
		420						425					430				
Gly	Leu	His	Ala	Ile	Lys	Glu	Ile	Leu	Pro	Gly	Thr	Phe	Asn	Pro	Met		
	435						440					445					
His	Ile	Phe	Ser	Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys	Thr	Asn		
	450					455					460						
Gln	Phe	Thr	His	Leu	Pro	Val	Ser	Asn	Ile	Asn	Pro	Trp	Asp	Cys	Ser		
465					470					475					480		
Cys	Asp	Leu	Val	Gly	Leu	Gln	Gln	Trp	Ile	Gln	Lys	Leu	Ser	Lys	Asn		
			485						490					495			
Thr	Val	Thr	Asp	Asp	Ile	Leu	Cys	Thr	Ser	Pro	Gly	His	Leu	Asp	Lys		
		500						505					510				
Lys	Glu	Leu	Lys	Ala	Leu	Asn	Ser	Glu	Ile	Leu	Cys	Pro	Gly	Leu	Val		
	515						520					525					
Asn	Asn	Pro	Ser	Met	Pro	Thr	Gln	Thr	Ser	Tyr	Leu	Met	Val	Ile	Leu		
	530					535					540						
Arg	Ser	Leu	Thr	Asp	Ala	Val	Pro	Leu	Ser	Val	Leu	Ile	Leu	Gly	Leu		
545					550					555					560		
Leu	Ile	Met	Phe	Ile	Thr	Ile	Val	Phe	Cys	Ala	Ala	Gly	Ile	Val	Val		
			565						570					575			
Leu	Val	Leu	His	Arg	Arg	Arg	Arg	Tyr	Lys	Lys	Lys	Gln	Val	Asp	Glu		
		580						585					590				
Gln	Met	Arg	Asp	Asn	Ser	Pro	Val	His	Leu	Gln	Tyr	Ser	Met	Tyr	Gly		
	595						600					605					
His	Lys	Thr	Thr	His	His	Thr	Thr	Glu	Arg	Pro	Ser	Ala	Ser	Leu	Tyr		
	610					615					620						
Glu	Gln	His	Met	Val	Ser	Pro	Met	Val	His	Val	Tyr	Arg	Ser	Pro	Ser		
625					630					635					640		
Phe	Gly	Pro	Lys	His	Leu	Gly	Ser	Asp	Ala	Lys	His	Leu	Gln	Arg	Ser		
			645						650					655			
Leu	Leu	Glu	Gln	Asn	His	Ser	Pro	Leu	Thr	Gly	Ser	Asn	Met	Lys			
		660					665					670					
Tyr	Lys	Thr	Thr	Asn	Gln	Ser	Thr	Glu	Phe	Leu	Ser	Phe	Gln	Asp	Ala		



		675					680					685					
Ser	Ser	Leu	Tyr	Arg	Asn	Ile	Leu	Glu	Lys	Glu	Arg	Glu	Leu	Gln	Gln		
	690					695					700						
Leu	Gly	Ile	Thr	Glu	Tyr	Leu	Arg	Lys	Asn	Ile	Ala	Gln	Leu	Gln	Pro		
705					710					715					720		
Asp	Met	Glu	Ala	His	Tyr	Pro	Gly	Ala	His	Glu	Glu	Leu	Lys	Leu	Met		
				725					730					735			
Glu	Thr	Leu	Met	Tyr	Ser	Arg	Pro	Arg	Lys	Val	Leu	Val	Glu	Gln	Thr		
			740					745					750				
Lys	Asn	Glu	Tyr	Phe	Glu	Leu	Lys	Ala	Asn	Leu	His	Ala	Glu	Pro	Asp		
		755					760					765					
Tyr	Leu	Glu	Val	Leu	Glu	Gln	Gln	Thr									
	770					775											

<210> 23  
 <211> 832  
 <212> PRT  
 <213> Homo sapiens

<400> 23

Met	Phe	Leu	Trp	Leu	Phe	Leu	Ile	Leu	Ser	Ala	Leu	Ile	Ser	Ser	Thr		
1				5					10					15			
Asn	Ala	Asp	Ser	Asp	Ile	Ser	Val	Glu	Ile	Cys	Asn	Val	Cys	Ser	Cys		
		20						25					30				
Val	Ser	Val	Glu	Asn	Val	Leu	Tyr	Val	Asn	Cys	Glu	Lys	Val	Ser	Val		
		35					40					45					
Tyr	Arg	Pro	Asn	Gln	Leu	Lys	Pro	Pro	Trp	Ser	Asn	Phe	Tyr	His	Leu		
	50					55					60						
Asn	Phe	Gln	Asn	Asn	Phe	Leu	Asn	Ile	Leu	Tyr	Pro	Asn	Thr	Phe	Leu		
65				70					75						80		
Asn	Phe	Ser	His	Ala	Val	Ser	Leu	His	Leu	Gly	Asn	Asn	Lys	Leu	Gln		
			85						90					95			
Asn	Ile	Glu	Gly	Gly	Ala	Phe	Leu	Gly	Leu	Ser	Ala	Leu	Lys	Gln	Leu		
		100						105					110				
His	Leu	Asn	Asn	Glu	Leu	Lys	Ile	Leu	Arg	Ala	Asp	Tyr	Asn	Leu	Ile	Lys	
	115					120					125						
Gly	Ile	Glu	Asn	Leu	Glu	Tyr	Leu	Gln	Ala	Asp	Tyr	Asn	Leu	Ile	Lys		
	130					135					140						
Tyr	Ile	Glu	Arg	Gly	Ala	Phe	Asn	Lys	Leu	His	Lys	Leu	Lys	Val	Leu		
145				150					155						160		
Ile	Leu	Asn	Asp	Asn	Leu	Ile	Ser	Phe	Leu	Pro	Asp	Asn	Ile	Phe	Arg		
			165					170						175			
Phe	Ala	Ser	Leu	Thr	His	Leu	Asp	Ile	Arg	Gly	Asn	Arg	Ile	Gln	Lys		
		180						185					190				
Leu	Pro	Tyr	Ile	Gly	Val	Leu	Glu	His	Ile	Gly	Arg	Val	Val	Glu	Leu		
	195						200					205					
Gln	Leu	Glu	Asp	Asn	Pro	Trp	Asn	Cys	Ser	Cys	Asp	Leu	Leu	Pro	Leu		
	210					215					220						
Lys	Ala	Trp	Leu	Glu	Asn	Met	Pro	Tyr	Asn	Ile	Tyr	Ile	Gly	Glu	Ala		
225					230				235					240			
Ile	Cys	Glu	Thr	Pro	Ser	Asp	Leu	Tyr	Gly	Arg	Leu	Leu	Lys	Glu	Thr		
			245						250					255			
Asn	Lys	Gln	Glu	Leu	Cys	Pro	Met	Gly	Thr	Gly	Ser	Asp	Phe	Asp	Val		
		260						265					270				
Arg	Ile	Leu	Pro	Pro	Ser	Gln	Leu	Glu	Asn	Gly	Tyr	Thr	Thr	Pro	Asn		
	275					280						285					
Gly	His	Thr	Thr	Gln	Thr	Ser	Leu	His	Arg	Leu	Val	Thr	Lys	Pro	Pro		
	290					295					300						
Lys	Thr	Thr	Asn	Pro	Ser	Lys	Ile	Ser	Gly	Ile	Val	Ala	Gly	Lys	Ala		
305				310					315					320			
Leu	Ser	Asn	Arg	Asn	Leu	Ser	Gln	Ile	Val	Ser	Tyr	Gln	Thr	Arg	Val		
			325						330					335			
Pro	Pro	Leu	Thr	Pro	Cys	Pro	Ala	Pro	Cys	Phe	Cys	Lys	Thr	His	Pro		

			340					345					350				
Ser	Asp	Leu	Gly	Leu	Ser	Val	Asn	Cys	Gln	Glu	Lys	Asn	Ile	Gln	Ser		
		355					360					365					
Met	Ser	Glu	Leu	Ile	Pro	Lys	Pro	Leu	Asn	Ala	Lys	Lys	Leu	His	Val		
		370				375					380						
Asn	Gly	Asn	Ser	Ile	Lys	Asp	Val	Asp	Val	Ser	Asp	Phe	Thr	Asp	Phe		
385					390					395					400		
Glu	Gly	Leu	Asp	Leu	His	Leu	Gly	Ser	Asn	Gln	Ile	Thr	Val	Ile			
				405				410					415				
Lys	Gly	Asp	Val	Phe	His	Asn	Leu	Thr	Asn	Leu	Arg	Arg	Leu	Tyr	Leu		
			420					425					430				
Asn	Gly	Asn	Gln	Ile	Glu	Arg	Leu	Tyr	Pro	Glu	Ile	Phe	Ser	Gly	Leu		
		435					440					445					
His	Asn	Leu	Gln	Tyr	Leu	Tyr	Leu	Glu	Tyr	Asn	Leu	Ile	Lys	Glu	Ile		
		450				455				460							
Ser	Ala	Gly	Thr	Phe	Asp	Ser	Met	Pro	Asn	Leu	Gln	Leu	Leu	Tyr	Leu		
465					470					475					480		
Asn	Asn	Asn	Leu	Leu	Lys	Ser	Leu	Pro	Val	Tyr	Ile	Phe	Ser	Gly	Ala		
				485				490						495			
Pro	Leu	Ala	Arg	Leu	Asn	Leu	Arg	Asn	Asn	Lys	Phe	Met	Tyr	Leu	Pro		
		500						505					510				
Val	Ser	Gly	Val	Leu	Asp	Gln	Leu	Gln	Ser	Leu	Thr	Gln	Ile	Asp	Leu		
		515				520						525					
Glu	Gly	Asn	Pro	Trp	Asp	Cys	Thr	Cys	Asp	Leu	Val	Ala	Leu	Lys	Leu		
	530				535					540							
Trp	Val	Glu	Lys	Leu	Ser	Asp	Gly	Ile	Val	Val	Lys	Glu	Leu	Lys	Cys		
545					550					555					560		
Glu	Thr	Pro	Val	Gln	Phe	Ala	Asn	Ile	Glu	Leu	Lys	Ser	Leu	Lys	Asn		
				565				570						575			
Glu	Ile	Leu	Cys	Pro	Lys	Leu	Leu	Asn	Lys	Pro	Ser	Ala	Pro	Phe	Thr		
			580					585					590				
Ser	Pro	Ala	Pro	Ala	Ile	Thr	Phe	Thr	Thr	Pro	Leu	Gly	Pro	Ile	Arg		
		595				600						605					
Ser	Pro	Pro	Gly	Gly	Pro	Val	Pro	Leu	Ser	Ile	Leu	Ile	Leu	Ser	Ile		
	610				615						620						
Leu	Val	Val	Leu	Ile	Leu	Thr	Val	Phe	Val	Ala	Phe	Cys	Leu	Leu	Val		
625					630					635					640		
Phe	Val	Leu	Arg	Arg	Asn	Lys	Lys	Pro	Thr	Val	Lys	His	Glu	Gly	Leu		
				645				650						655			
Gly	Asn	Pro	Asp	Cys	Gly	Ser	Met	Gln	Leu	Gln	Leu	Arg	Lys	His	Asp		
		660						665					670				
His	Lys	Thr	Asn	Lys	Lys	Asp	Gly	Leu	Ser	Thr	Glu	Ala	Phe	Ile	Pro		
		675				680						685					
Gln	Thr	Ile	Glu	Gln	Met	Ser	Lys	Ser	His	Thr	Cys	Gly	Leu	Lys	Glu		
	690				695					700							
Ser	Glu	Thr	Gly	Phe	Met	Phe	Ser	Asp	Pro	Pro	Gly	Gln	Lys	Val	Val		
705					710				715						720		
Met	Arg	Asn	Val	Ala	Asp	Lys	Glu	Lys	Asp	Leu	Leu	His	Val	Asp	Thr		
				725				730						735			
Arg	Lys	Arg	Leu	Ser	Thr	Ile	Asp	Glu	Leu	Asp	Glu	Leu	Phe	Pro	Ser		
			740					745					750				
Arg	Asp	Ser	Asn	Val	Phe	Ile	Gln	Asn	Phe	Leu	Glu	Ser	Lys	Lys	Glu		
		755					760					765					
Tyr	Asn	Ser	Ile	Gly	Val	Ser	Gly	Phe	Glu	Ile	Arg	Tyr	Pro	Glu	Lys		
	770				775						780						
Gln	Pro	Asp	Lys	Lys	Ser	Lys	Lys	Ser	Leu	Ile	Gly	Gly	Asn	His	Ser		
785					790				795						800		
Lys	Ile	Val	Val	Glu	Gln	Arg	Lys	Ser	Glu	Tyr	Phe	Glu	Leu	Lys	Ala		
				805				810						815			
Lys	Leu	Gln	Ser	Ser	Pro	Asp	Tyr	Leu	Gln	Val	Leu	Glu	Glu	Gln	Thr		
			820					825						830			

<211> 14  
 <212> PRT  
 <213> Tetanus toxoid  
  
 <400> 24  
 Gln Tyr Ile Lys Ala Asn Ser Lys Phe Ile Gly Ile Thr Glu  
 1 5 10  
  
 <210> 25  
 <211> 21  
 <212> PRT  
 <213> Plasmodium falciparum  
  
 <400> 25  
 Asp Ile Glu Lys Lys Ile Ala Lys Met Glu Lys Ala Ser Ser Val Phe  
 1 5 10 15  
 Asn Val Val Asn Ser  
 20  
  
 <210> 26  
 <211> 16  
 <212> PRT  
 <213> Streptococcus  
  
 <400> 26  
 Gly Ala Val Asp Ser Ile Leu Gly Gly Val Ala Thr Tyr Gly Ala Ala  
 1 5 10 15  
  
 <210> 27  
 <211> 13  
 <212> PRT  
 <213> Artificial Sequence  
  
 <220>  
 <223> pan-DR binding epitope  
  
 <221> VARIANT  
 <222> 3  
 <223> Xaa = cyclohexylalanine, phenylalanine, or  
 tyrosine  
  
 <221> VARIANT  
 <222> 1, 13  
 <223> Xaa = D-alanine or L-alanine  
  
 <400> 27  
 Xaa Lys Xaa Val Ala Ala Trp Thr Leu Lys Ala Ala Xaa  
 1 5 10  
  
 <210> 28  
 <211> 14  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Primer  
  
 <400> 28  
 ttttgatcaa gctt

<210> 29  
 <211> 42  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Primer  
  
 <400> 29  
 ctaatacgac tcactatagg gctcgagcgg ccgcccgggc ag 42  
  
 <210> 30  
 <211> 12  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Primer  
  
 <400> 30  
 gatcctgccc gg 12  
  
 <210> 31  
 <211> 40  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Primer  
  
 <400> 31  
 gtaatacgac tcactatagg gcagcgtggt cgcggccgag 40  
  
 <210> 32  
 <211> 10  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Primer  
  
 <400> 32  
 gatcctcggc 10  
  
 <210> 33  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Primer  
  
 <400> 33  
 ctaatacgac tcactatagg gc 22  
  
 <210> 34  
 <211> 22  
 <212> DNA  
 <213> Artificial Sequence  
  
 <220>  
 <223> Primer  
  
 <400> 34

tcgagcggcc gcccgggcag ga	22
<210> 35	
<211> 20	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 35	
agcgtggtcg cggccgagga	20
<210> 36	
<211> 25	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 36	
atatcgccgc gctcgtcgtc gacaa	25
<210> 37	
<211> 26	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 37	
agccacacgc agctcattgt agaagg	26
<210> 38	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 38	
ataagctttc aatgttgcg tcct	24
<210> 39	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Primer	
<400> 39	
tgtcaactaa gaccacgtcc attc	24
<210> 40	
<211> 24	
<212> DNA	
<213> Artificial Sequence	
<220>	
<223> Flag Tag	

<400> 40  
 gattacaagg atgacgacga taag 24

<210> 41  
 <211> 12  
 <212> PRT  
 <213> Homo sapiens

<400> 41  
 Glu Glu His Glu Asp Pro Ser Gly Ser Leu His Leu  
 1 5 10

<210> 42  
 <211> 21  
 <212> DNA  
 <213> Homo sapiens

<400> 42  
 aagctcattc tagcgggaaa t 21

<210> 43  
 <211> 24  
 <212> DNA  
 <213> Homo sapiens

<400> 43  
 aagggacgaa gacgaacacu uctt 24

<210> 44  
 <211> 23  
 <212> DNA  
 <213> Homo sapiens

<400> 44  
 aactgaagac ctgaagacaa taa 23

<210> 45  
 <211> 4  
 <212> PRT  
 <213> Homo sapiens

<400> 45  
 Asn Asp Ser Arg  
 1

<210> 46  
 <211> 4  
 <212> PRT  
 <213> Homo sapiens

<400> 46  
 Asn Leu Thr Arg  
 1

<210> 47  
 <211> 4  
 <212> PRT  
 <213> Homo sapiens

<400> 47

Asn Gln Ser Thr

1

<210> 48

<211> 4

<212> PRT

<213> Homo sapiens

<400> 48

Lys Lys Glu Ser

1

<210> 49

<211> 4

<212> PRT

<213> Homo sapiens

<400> 49

Thr Val Ile Glu

1

<210> 50

<211> 4

<212> PRT

<213> Homo sapiens

<400> 50

Thr His Leu Asp

1

<210> 51

<211> 4

<212> PRT

<213> Homo sapiens

<400> 51

Thr Trp Leu Glu

1

<210> 52

<211> 4

<212> PRT

<213> Homo sapiens

<400> 52

Ser Ile Asn Asp

1

<210> 53

<211> 4

<212> PRT

<213> Homo sapiens

<400> 53

Ser Leu Ser Asp

1

<210> 54  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 54  
Thr Gln Ile Asp  
1

<210> 55  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 55  
Thr Val Thr Asp  
1

<210> 56  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 56  
Ser Leu Thr Asp  
1

<210> 57  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 57  
Ser Leu Tyr Glu  
1

<210> 58  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 58  
Ser Leu Leu Glu  
1

<210> 59  
<211> 4  
<212> PRT  
<213> Homo sapiens

<400> 59  
Ser Phe Gln Asp  
1

<210> 60  
<211> 4  
<212> PRT  
<213> Homo sapiens



<400> 60  
Thr Lys Asn Glu  
1

<210> 61  
<211> 8  
<212> PRT  
<213> Homo sapiens

<400> 61  
Lys Leu Met Glu Thr Leu Met Tyr  
1 5

<210> 62  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 62  
Gly Ser Cys Asp Ser Leu  
1 5

<210> 63  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 63  
Gly Leu Thr Asn Ala Ile  
1 5

<210> 64  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 64  
Gly Ala Phe Asn Gly Leu  
1 5

<210> 65  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 65  
Gly Ser Ile Leu Ser Arg  
1 5

<210> 66  
<211> 6  
<212> PRT  
<213> Homo sapiens

<400> 66  
Gly Ser Phe Met Asn Leu  
1 5

<210> 67  
 <211> 6  
 <212> PRT  
 <213> Homo sapiens

<400> 67  
 Gly Asn His Leu Thr Lys  
 1 5

<210> 68  
 <211> 6  
 <212> PRT  
 <213> Homo sapiens

<400> 68  
 Gly Met Phe Leu Gly Leu  
 1 5

<210> 69  
 <211> 6  
 <212> PRT  
 <213> Homo sapiens

<400> 69  
 Gly Val Pro Leu Thr Lys  
 1 5

<210> 70  
 <211> 2228  
 <212> DNA  
 <213> Homo sapiens

<400> 70  
 tcggatttca tcacatgaca acatgaagct gtggattcat ctctttttatt catctctcct 60  
 tgcctgtata tctttacact cccaaactcc agtgctctca tccagaggct cttgtgattc 120  
 tctttgcaat tgtgaggaaa aagatggcac aatgctaata aattgtgaag caaaagggtat 180  
 caagatggta tctgaaataa gtgtgccacc atcacgacct ttccaactaa gcttattaaa 240  
 taacggccttg acgatgcttc acacaaatga cttttctggg cttaccaatg ctatttcaat 300  
 acaccttgga tttacaataa ttgcagatat tgagataggt gcatttaatg gccttggcct 360  
 cctgaaacaa cttcatatca atcacaattc tttagaaatt cttaaagagg atactttcca 420  
 tggactggaa aacctggaat tcctgcaagc agataacaat tttatcacag tgattgaacc 480  
 aagtgccttt agcaagctca acagactcaa agtggttaatt ttaaagaca atgctattga 540  
 gagtcttcct ccaaacatct tccgatttgt tcttttaacc catctagatc ttcgtggaaa 600  
 tcaattacaa acattgcctt atgttggttt tctcgaacac attggccgaa tattggatct 660  
 tcagttggag gacaacaaat gggcctgcaa ttgtgactta ttgcagttaa aaacttggtt 720  
 ggagaacatg cctccacagt ctataattgg tgatgttgtc tgcaacagcc ctccattttt 780  
 taaaggaagt atactcagta gactaaagaa ggaatctatt tgccctactc caccagtgtg 840  
 tgaagaacat gaggatcctt caggatcatt acatctggca gcaacatctt caataaatga 900  
 tagtcgcatg tcaactaaga ccacgtccat tctaaaacta cccaccaaag caccagggtt 960  
 gataccttat attacaaagc catccactca acttccagga ccttactgcc ctattccttg 1020  
 taactgcaaa gtccatccc catcaggact tctaatacat tgtcaggagc gcaacattga 1080  
 aagcttatca gatctgagac ctccctcgca aaatcctaga aagctcattc tagcgggaaa 1140  
 tattattcac agtttaaatga agtctgatct agtggaaat ttcacttttg aaatgcttca 1200  
 cttgggaaac aatcgtattg aagttcctga agaaggatcg tttatgaacc taacgagatt 1260  
 acaaaaactc tatctaaatg gtaaccacct gaccaaatta agtaaaggca tgttccttgg 1320  
 tctccataat cttgaatact tatatcttga atacaatgcc attaaaggaaa tactgccagg 1380  
 aacctttaat ccaatgccta aacttaaagt cctgtattta aataacaacc tcctccaagt 1440  
 tttaccacca catatttttt caggggttcc tctaactaag gtaaactcta aaacaaacca 1500  
 gtttaccat ctacctgtaa gtaatatattt ggatgatctt gatttactaa cccagattga 1560

ccttgaggat	aacccctggg	actgctcctg	tgacctgggt	ggactgcagc	aatggataca	1620
aaagttaagc	aagaacacag	tgacagatga	catcctctgc	acttcccccg	ggcatctcga	1680
caaaaaggaa	ttgaaagccc	taaatagtga	aattctctgt	ccagggtttag	taaataaccc	1740
atccatgcca	acacagacta	gttaccttat	ggtcaccact	cctgcaacaa	caacaaatac	1800
ggctgatact	attttacgat	ctcttacgga	cgctgtgcca	ctgtctgttc	taatattggg	1860
acttctgatt	atgttcatca	ctattgtttt	ctgtgctgca	gggatagtgg	ttcttgttct	1920
tcaccgcagg	agaagataca	aaaagaaaca	agtagatgag	caaatgagag	acaacagtcc	1980
tgtgcatctt	cagtacagca	tgtatggcca	taaaaccact	catcacacta	ctgaaagacc	2040
ctctgcctca	ctctatgaac	agcacatggg	agcccacgaa	gagctgaagt	taatggaaac	2100
attaatgtac	tcacgtccaa	ggaaggtatt	agtggaaacag	acaaaaaatg	agtattttga	2160
acttaaagct	aatttacatg	ctgaacctga	ctatttagaa	gtcctggagc	agcaaacata	2220
gatggaga						2228

<210> 71  
 <211> 2555  
 <212> DNA  
 <213> Homo sapiens

<400> 71						
tcggatttca	tcacatgaca	acatgaagct	gtggattcat	ctcttttatt	catctctcct	60
tgctgtata	tctttacact	cccaaactcc	agtgtctctca	tccagaggct	cttgtgattc	120
tctttgcaat	tgtgaggaaa	aagatggcac	aatgctaata	aattgtgaag	caaaagggtat	180
caagatggta	tctgaaataa	gtgtgccacc	atcacgacct	ttccaactaa	gcttattaaa	240
taacggcttg	acgatgcttc	acacaaatga	cttttctggg	cttaccaatg	ctattttcaat	300
acaccttggg	tttaacaata	ttgcagatat	tgagataggt	gcattttaatg	gccttggcct	360
cctgaaacaa	cttcatatca	atcacaattc	tttagaaatt	cttaaagagg	atactttcca	420
tggactggaa	aacctggaat	tcctgcaagc	agataacaat	tttatcacag	tgattgaacc	480
aagtgccttt	agcaagctca	acagactcaa	agtgttaatt	ttaaatgaca	atgctattga	540
gagtcttctt	ccaaacatct	tccgatttgt	tcctttaacc	catctagatc	ttcgtggaaa	600
tcaattacaa	acattgcctt	atgttggttt	tctcgaacac	attggccgaa	tattggatct	660
tcagttggag	gacaacaaat	gggcctgcaa	ttgtgactta	ttgcagttaa	aaacttggtt	720
ggagaacatg	cctccacagt	ctataattgg	tgatgttgtc	tgcaacagcc	ctccattttt	780
taaaggaagt	atactcagta	gactaaagaa	ggaatctatt	tgccctactc	caccagtgtg	840
tgaagaacat	gaggatcctt	caggatcatt	acatctggca	gcaacatctt	caataaatga	900
tagtgcgatg	tcaactaaga	ccacgtccat	tctaaaacta	cccaccaaag	caccaggttt	960
gataccttat	attacaaagc	catccactca	acttccagga	ccttactgcc	ctattccttg	1020
taactgcaaa	gtcctatccc	catcaggact	tctaatacat	tgtcaggagc	gcaacattga	1080
aagottatca	gatctgagac	ctcctccgca	aaatcctaga	aagctcattc	tagcgggaaa	1140
tattattcac	agtttaatat	agtctgatct	agtggaaatat	ttcacttttg	aaatgcttca	1200
cttgggaaac	aatcgatttg	aagttcttga	agaaggatcg	tttatgaacc	taacgagatt	1260
acaaaaactc	tatctaaatg	gtaaccacct	gaccaaatta	agtaaaggca	tgttccttgg	1320
tctccataat	cttgaatact	tatatcttga	atacaatgcc	attaaggaaa	tactgccagg	1380
aacctttaat	ccaatgccta	aacttaaagt	cctgtatttta	aataacaacc	tcctccaagt	1440
tttaccacca	catatttttt	caggggttcc	tctaactaag	gtaaatctta	aaacaaacca	1500
gtttaccocat	ctacctgtaa	gtaatatttt	ggatgatctt	gatttactaa	cccagattga	1560
ccttgaggat	aacccctggg	actgctcctg	tgacctgggt	ggactgcagc	aatggataca	1620
aaagttaagc	aagaacacag	tgacagatga	catcctctgc	acttcccccg	ggcatctcga	1680
caaaaaggaa	ttgaaagccc	taaatagtga	aattctctgt	ccagggtttag	taaataaccc	1740
atccatgcca	acacagacta	gttaccttat	ggtcaccact	cctgcaacaa	caacaaatac	1800
ggctgatact	attttacgat	ctcttacgga	cgctgtgcca	ctgtctgttc	taatattggg	1860
acttctgatt	atgttcatca	ctattgtttt	ctgtgctgca	gggatagtgg	ttcttgttct	1920
tcaccgcagg	agaagataca	aaaagaaaca	agtagatgag	caaatgagag	acaacagtcc	1980
tgtgcatctt	cagtacagca	tgtatggcca	taaaaccact	catcacacta	ctgaaagacc	2040
ctctgcctca	ctctatgaac	agcacatggg	gagccccatg	gttcatgtct	atagaagtcc	2100
atccttttgg	ccaaagcatc	tggaaaggga	agaagagagg	aatgagaaaag	aagggaagtga	2160
tgcaaaacat	ctccaaagaa	gtcttttggg	acaggaaaat	cattcaccac	tcacagggtc	2220
aaatatgaaa	tacaaaccca	cgaaccaatc	aacagaattt	ttatccttcc	aagatgccag	2280
ctcattgtac	agaaacattt	tagaaaaaga	aagggaactt	cagcaactgg	gaatcacaga	2340
atacctaagg	aaaaacattg	ctcagctcca	gcctgatatg	gaggcacatt	atcctggagc	2400
ccacgaagag	ctgaagttaa	tggaaacatt	aatgtactca	cgccaagga	aggtattagt	2460
ggaacagaca	aaaaatgagt	attttgaact	taaagcta	ttacatgctg	aacctgacta	2520
tttagaagtc	ctggagcagc	aaacatagat	ggaga			2555

<210> 72

<211> 2228  
 <212> DNA  
 <213> Homo sapiens

<400> 72  
 tcggatttca tcacatgaca acatgaagct gtggattcat ctcttttatt catctctcct 60  
 tgcctgtata tctttacact cccaaactcc agtgcctctca tccagaggct cttgtgattc 120  
 tctttgcaat tgtgaggaaa aagatggcac aatgctaata aattgtgaag caaaaggat 180  
 caagatggta tctgaaataa gtgtgccacc atcacgacct ttccaactaa gcttattaaa 240  
 taacggcttg acgatgcttc acacaaatga cttttctggg cttaccaatg ctattttcaat 300  
 acaccttggga tttaacaata ttgcagatat tgagataggt gcatttaatg gccttggcct 360  
 cctgaaacaa cttcatatca atcacaattc tttagaaatt cttaaagagg atactttcca 420  
 tggactggaa aacctggaat tcctgcaagc agataacaat tttatcacag tgattgaacc 480  
 aagtgccttt agcaagctca acagactcaa agtggttaatt ttaaatagaca atgctattga 540  
 gagtcttcct ccaaaccatct tccgatttgt tcctttaacc catctagatc ttcgtggaaa 600  
 tcaattacaa acattgcctt atgttgggtt tctcgaacac attggccgaa tattggatct 660  
 tcagttggag gacaacaaat gggcctgcaa ttgtgactta ttgcagttaa aaacttggtt 720  
 ggagaacatg cctccacagt ctataattgg tgatgtgtgc tgcaacagcc ctccattttt 780  
 taaaggaagt atactcagta gactaaagaa ggaatctatt tgccctactc caccagtgt 840  
 tgaagaacat gaggatcctt caggatcatt acatctggca gcaacatctt caataaatga 900  
 tagtcgcatg tcaactaaga ccacgtccat tctaaaacta cccaccaaaag caccagggtt 960  
 gataccttat attacaaagc catccactca acttccagga ccttactgcc ctattccttg 1020  
 taactgcaaa gtcctatccc catcaggact tctaatacat tgtcaggagc gcaacattga 1080  
 aagcttatca gatctgagac ctctccgca aaatcctaga aagctcattc tagcgggaaa 1140  
 tattattcac agtttaatat agtctgatct agtggaaat ttcacttttg aaatgcttca 1200  
 cttgggaaac aatcgtattg aagttcttga agaaggatcg tttatgaacc taacgagatt 1260  
 acaaaaactc tatctaaatg gtaaccacct gaccaaatta agtaaaggca tgttccttgg 1320  
 tctccataat cttgaatact tatatcttga atacaatgcc attaaggaaa tactgccagg 1380  
 aacctttaat ccaatgccta aacttaaagt cctgtattta aataacaacc tctccaagt 1440  
 tttaccacca catatttttt caggggttcc tctaactaag gtaaacttta aaacaaacca 1500  
 gtttaccat ctacctgtaa gtaatat ttt ggatgatctt gatttactaa cccagattga 1560  
 ccttgaggat aacccttggg actgctcctg tgacctgggt ggactgcagc aatggatata 1620  
 aaagttaagc aagaacacag tgacagatga catcctctgc acttcccccg ggcctctcga 1680  
 caaaaaggaa ttgaaagccc taaatagtga aattctctgt ccagggttag taaataaccc 1740  
 atccatgcca acacagacta gttaccttat ggtcaccact cctgcaacaa caacaaatac 1800  
 ggetgatact attttacgat ctcttacgga cgctgtgcca ctgtctgttc taatattggg 1860  
 acttctgatt atgttcatca ctattgtttt ctgtgctgca gggatagtggt ttcttgttct 1920  
 tcaccgcagg agaagataca aaaagaaaca agtagatgag caaatgagag acaacagtc 1980  
 tgtgcatctt cagtacagca tgtatggcca taaaaccact catcacacta ctgaaagacc 2040  
 ctctgcctca ctctatgaac agcacatggg agcccacgaa gagctgaagt taatggaaac 2100  
 attaattgtac tcacgtccaa ggaaggattt agtggaaacag acaaaaaatg agtattttga 2160  
 acttaaagct aattttacatg ctgaacctga ctatttagaa gtcctggagc agcaaacata 2220  
 gatggaga 2228

<210> 73  
 <211> 732  
 <212> PRT  
 <213> Homo sapiens

<400> 73  
 Met Lys Leu Trp Ile His Leu Phe Tyr Ser Ser Leu Leu Ala Cys Ile  
 1 5 10 15  
 Ser Leu His Ser Gln Thr Pro Val Leu Ser Ser Arg Gly Ser Cys Asp  
 20 25 30  
 Ser Leu Cys Asn Cys Glu Glu Lys Asp Gly Thr Met Leu Ile Asn Cys  
 35 40 45  
 Glu Ala Lys Gly Ile Lys Met Val Ser Glu Ile Ser Val Pro Pro Ser  
 50 55 60  
 Arg Pro Phe Gln Leu Ser Leu Leu Asn Asn Gly Leu Thr Met Leu His  
 65 70 75 80  
 Thr Asn Asp Phe Ser Gly Leu Thr Asn Ala Ile Ser Ile His Leu Gly  
 85 90 95  
 Phe Asn Asn Ile Ala Asp Ile Glu Ile Gly Ala Phe Asn Gly Leu Gly  
 100 105 110

Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys
		115					120					125			
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp
	130					135					140				
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn
145					150					155					160
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro
			165					170						175	
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly
			180					185					190		
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly
	195						200					205			
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys
	210					215					220				
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser
225					230					235					240
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser
			245						250					255	
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val
			260					265					270		
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr
	275						280					285			
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu
	290					295					300				
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro
305					310					315					320
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys
			325						330					335	
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile
			340					345					350		
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu
	355						360					365			
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Asp	Leu	Val
	370					375					380				
Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu	Gly	Asn	Asn	Arg	Ile	Glu
385					390					395					400
Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu	Thr	Arg	Leu	Gln	Lys	Leu
			405						410					415	
Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu	Ser	Lys	Gly	Met	Phe	Leu
			420					425					430		
Gly	Leu	His	Asn	Leu	Glu	Tyr	Leu	Tyr	Leu	Glu	Tyr	Asn	Ala	Ile	Lys
	435						440					445			
Glu	Ile	Leu	Pro	Gly	Thr	Phe	Asn	Pro	Met	Pro	Lys	Leu	Lys	Val	Leu
	450					455					460				
Tyr	Leu	Asn	Asn	Asn	Leu	Gln	Val	Leu	Pro	Pro	His	Ile	Phe	Ser	
465					470				475					480	
Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys	Thr	Asn	Gln	Phe	Thr	His
			485						490					495	
Leu	Pro	Val	Ser	Asn	Ile	Leu	Asp	Asp	Leu	Asp	Leu	Leu	Thr	Gln	Ile
			500					505					510		
Asp	Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Ser	Cys	Asp	Leu	Val	Gly	Leu
	515						520					525			
Gln	Gln	Trp	Ile	Gln	Lys	Leu	Ser	Lys	Asn	Thr	Val	Thr	Asp	Asp	Ile
	530					535					540				
Leu	Cys	Thr	Ser	Pro	Gly	His	Leu	Asp	Lys	Lys	Glu	Leu	Lys	Ala	Leu
545					550					555					560
Asn	Ser	Glu	Ile	Leu	Cys	Pro	Gly	Leu	Val	Asn	Asn	Pro	Ser	Met	Pro
			565						570					575	
Thr	Gln	Thr	Ser	Tyr	Leu	Met	Val	Thr	Thr	Pro	Ala	Thr	Thr	Thr	Asn
			580					585					590		
Thr	Ala	Asp	Thr	Ile	Leu	Arg	Ser	Leu	Thr	Asp	Ala	Val	Pro	Leu	Ser
	595						600					605			
Val	Leu	Ile	Leu	Gly	Leu	Leu	Ile	Met	Phe	Ile	Thr	Ile	Val	Phe	Cys
	610					615					620				

Ala	Ala	Gly	Ile	Val	Val	Leu	Val	Leu	His	Arg	Arg	Arg	Arg	Tyr	Lys
625					630					635					640
Lys	Lys	Gln	Val	Asp	Glu	Gln	Met	Arg	Asp	Asn	Ser	Pro	Val	His	Leu
				645					650					655	
Gln	Tyr	Ser	Met	Tyr	Gly	His	Lys	Thr	Thr	His	His	Thr	Thr	Glu	Arg
			660					665					670		
Pro	Ser	Ala	Ser	Leu	Tyr	Glu	Gln	His	Met	Gly	Ala	His	Glu	Glu	Leu
		675					680					685			
Lys	Leu	Met	Glu	Thr	Leu	Met	Tyr	Ser	Arg	Pro	Arg	Lys	Val	Leu	Val
	690					695					700				
Glu	Gln	Thr	Lys	Asn	Glu	Tyr	Phe	Glu	Leu	Lys	Ala	Asn	Leu	His	Ala
705				710						715					720
Glu	Pro	Asp	Tyr	Leu	Glu	Val	Leu	Glu	Gln	Gln	Thr				
				725					730						

<210> 74  
 <211> 841  
 <212> PRT  
 <213> Homo sapiens

<400> 74

Met	Lys	Leu	Trp	Ile	His	Leu	Phe	Tyr	Ser	Ser	Leu	Leu	Ala	Cys	Ile
1				5					10					15	
Ser	Leu	His	Ser	Gln	Thr	Pro	Val	Leu	Ser	Ser	Arg	Gly	Ser	Cys	Asp
			20					25					30		
Ser	Leu	Cys	Asn	Cys	Glu	Glu	Lys	Asp	Gly	Thr	Met	Leu	Ile	Asn	Cys
		35					40					45			
Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile	Ser	Val	Pro	Pro	Ser
	50					55					60				
Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly	Leu	Thr	Met	Leu	His
65				70						75					80
Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile	Ser	Ile	His	Leu	Gly
			85						90					95	
Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala	Phe	Asn	Gly	Leu	Gly
			100					105					110		
Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys
		115					120					125			
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp
	130					135					140				
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn
145					150					155					160
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro
			165						170					175	
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly
		180						185					190		
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly
		195					200					205			
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys
	210					215					220				
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser
225					230					235					240
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser
			245						250					255	
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val
		260						265					270		
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr
		275					280					285			
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu
	290					295					300				
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro
305					310					315					320
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys
				325					330					335	

Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile	
			340					345					350			
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu	
		355					360					365				
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Asp	Leu	Val	
	370					375					380					
Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu	Gly	Asn	Asn	Arg	Ile	Glu	
385						390				395					400	
Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu	Thr	Arg	Leu	Gln	Lys	Leu	
				405					410					415		
Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu	Ser	Lys	Gly	Met	Phe	Leu	
			420					425					430			
Gly	Leu	His	Asn	Leu	Glu	Tyr	Leu	Tyr	Leu	Glu	Tyr	Asn	Ala	Ile	Lys	
		435					440					445				
Glu	Ile	Leu	Pro	Gly	Thr	Phe	Asn	Pro	Met	Pro	Lys	Leu	Lys	Val	Leu	
	450					455					460					
Tyr	Leu	Asn	Asn	Asn	Leu	Leu	Gln	Val	Leu	Pro	Pro	His	Ile	Phe	Ser	
465						470				475					480	
Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys	Thr	Asn	Gln	Phe	Thr	His	
				485					490					495		
Leu	Pro	Val	Ser	Asn	Ile	Leu	Asp	Asp	Leu	Asp	Leu	Leu	Thr	Gln	Ile	
				500				505					510			
Asp	Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Ser	Cys	Asp	Leu	Val	Gly	Leu	
		515					520					525				
Gln	Gln	Trp	Ile	Gln	Lys	Leu	Ser	Lys	Asn	Thr	Val	Thr	Asp	Asp	Ile	
	530					535					540					
Leu	Cys	Thr	Ser	Pro	Gly	His	Leu	Asp	Lys	Lys	Glu	Leu	Lys	Ala	Leu	
545					550					555					560	
Asn	Ser	Glu	Ile	Leu	Cys	Pro	Gly	Leu	Val	Asn	Asn	Pro	Ser	Met	Pro	
				565				570						575		
Thr	Gln	Thr	Ser	Tyr	Leu	Met	Val	Thr	Thr	Pro	Ala	Thr	Thr	Thr	Asn	
			580					585					590			
Thr	Ala	Asp	Thr	Ile	Leu	Arg	Ser	Leu	Thr	Asp	Ala	Val	Pro	Leu	Ser	
		595					600					605				
Val	Leu	Ile	Leu	Gly	Leu	Leu	Ile	Met	Phe	Ile	Thr	Ile	Val	Phe	Cys	
	610					615					620					
Ala	Ala	Gly	Ile	Val	Val	Leu	Val	Leu	His	Arg	Arg	Arg	Arg	Tyr	Lys	
625					630					635					640	
Lys	Lys	Gln	Val	Asp	Glu	Gln	Met	Arg	Asp	Asn	Ser	Pro	Val	His	Leu	
				645					650					655		
Gln	Tyr	Ser	Met	Tyr	Gly	His	Lys	Thr	Thr	His	His	Thr	Thr	Glu	Arg	
			660					665					670			
Pro	Ser	Ala	Ser	Leu	Tyr	Glu	Gln	His	Met	Val	Ser	Pro	Met	Val	His	
		675					680					685				
Val	Tyr	Arg	Ser	Pro	Ser	Phe	Gly	Pro	Lys	His	Leu	Glu	Glu	Glu	Glu	
	690					695					700					
Glu	Arg	Asn	Glu	Lys	Glu	Gly	Ser	Asp	Ala	Lys	His	Leu	Gln	Arg	Ser	
705					710				715						720	
Leu	Leu	Glu	Gln	Glu	Asn	His	Ser	Pro	Leu	Thr	Gly	Ser	Asn	Met	Lys	
				725					730					735		
Tyr	Lys	Thr	Thr	Asn	Gln	Ser	Thr	Glu	Phe	Leu	Ser	Phe	Gln	Asp	Ala	
			740					745					750			
Ser	Ser	Leu	Tyr	Arg	Asn	Ile	Leu	Glu	Lys	Glu	Arg	Glu	Leu	Gln	Gln	
		755					760					765				
Leu	Gly	Ile	Thr	Glu	Tyr	Leu	Arg	Lys	Asn	Ile	Ala	Gln	Leu	Gln	Pro	
	770					775					780					
Asp	Met	Glu	Ala	His	Tyr	Pro	Gly	Ala	His	Glu	Glu	Leu	Lys	Leu	Met	
785					790					795					800	
Glu	Thr	Leu	Met	Tyr	Ser	Arg	Pro	Arg	Lys	Val	Leu	Val	Glu	Gln	Thr	
				805					810					815		
Lys	Asn	Glu	Tyr	Phe	Glu	Leu	Lys	Ala	Asn	Leu	His	Ala	Glu	Pro	Asp	
			820					825					830			
Tyr	Leu	Glu	Val	Leu	Glu	Gln	Gln	Thr								
		835					840									

<210> 75  
 <211> 732  
 <212> PRT  
 <213> Homo sapiens

<400> 75  
 Met Lys Leu Trp Ile His Leu Phe Tyr Ser Ser Leu Leu Ala Cys Ile  
 1 5 10 15  
 Ser Leu His Ser Gln Thr Pro Val Leu Ser Ser Arg Gly Ser Cys Asp  
 20 25 30  
 Ser Leu Cys Asn Cys Glu Glu Lys Asp Gly Thr Met Leu Ile Asn Cys  
 35 40 45  
 Glu Ala Lys Gly Ile Lys Met Val Ser Glu Ile Ser Val Pro Pro Ser  
 50 55 60  
 Arg Pro Phe Gln Leu Ser Leu Leu Asn Asn Gly Leu Thr Met Leu His  
 65 70 75 80  
 Thr Asn Asp Phe Ser Gly Leu Thr Asn Ala Ile Ser Ile His Leu Gly  
 85 90 95  
 Phe Asn Asn Ile Ala Asp Ile Glu Ile Gly Ala Phe Asn Gly Leu Gly  
 100 105 110  
 Leu Leu Lys Gln Leu His Ile Asn His Asn Ser Leu Glu Ile Leu Lys  
 115 120 125  
 Glu Asp Thr Phe His Gly Leu Glu Asn Leu Glu Phe Leu Gln Ala Asp  
 130 135 140  
 Asn Asn Phe Ile Thr Val Ile Glu Pro Ser Ala Phe Ser Lys Leu Asn  
 145 150 155 160  
 Arg Leu Lys Val Leu Ile Leu Asn Asp Asn Ala Ile Glu Ser Leu Pro  
 165 170 175  
 Pro Asn Ile Phe Arg Phe Val Pro Leu Thr His Leu Asp Leu Arg Gly  
 180 185 190  
 Asn Gln Leu Gln Thr Leu Pro Tyr Val Gly Phe Leu Glu His Ile Gly  
 195 200 205  
 Arg Ile Leu Asp Leu Gln Leu Glu Asp Asn Lys Trp Ala Cys Asn Cys  
 210 215 220  
 Asp Leu Leu Gln Leu Lys Thr Trp Leu Glu Asn Met Pro Pro Gln Ser  
 225 230 235 240  
 Ile Ile Gly Asp Val Val Cys Asn Ser Pro Pro Phe Phe Lys Gly Ser  
 245 250 255  
 Ile Leu Ser Arg Leu Lys Lys Glu Ser Ile Cys Pro Thr Pro Pro Val  
 260 265 270  
 Tyr Glu Glu His Glu Asp Pro Ser Gly Ser Leu His Leu Ala Ala Thr  
 275 280 285  
 Ser Ser Ile Asn Asp Ser Arg Met Ser Thr Lys Thr Thr Ser Ile Leu  
 290 295 300  
 Lys Leu Pro Thr Lys Ala Pro Gly Leu Ile Pro Tyr Ile Thr Lys Pro  
 305 310 315 320  
 Ser Thr Gln Leu Pro Gly Pro Tyr Cys Pro Ile Pro Cys Asn Cys Lys  
 325 330 335  
 Val Leu Ser Pro Ser Gly Leu Leu Ile His Cys Gln Glu Arg Asn Ile  
 340 345 350  
 Glu Ser Leu Ser Asp Leu Arg Pro Pro Gln Asn Pro Arg Lys Leu  
 355 360 365  
 Ile Leu Ala Gly Asn Ile Ile His Ser Leu Met Lys Ser Asp Leu Val  
 370 375 380  
 Glu Tyr Phe Thr Leu Glu Met Leu His Leu Gly Asn Asn Arg Ile Glu  
 385 390 395 400  
 Val Leu Glu Glu Gly Ser Phe Met Asn Leu Thr Arg Leu Gln Lys Leu  
 405 410 415  
 Tyr Leu Asn Gly Asn His Leu Thr Lys Leu Ser Lys Gly Met Phe Leu  
 420 425 430  
 Gly Leu His Asn Leu Glu Tyr Leu Tyr Leu Glu Tyr Asn Ala Ile Lys  
 435 440 445



Glu Ile Leu Pro Gly Thr Phe Asn Pro Met Pro Lys Leu Lys Val Leu  
 450 455 460  
 Tyr Leu Asn Asn Asn Leu Leu Gln Val Leu Pro Pro His Ile Phe Ser  
 465 470 475 480  
 Gly Val Pro Leu Thr Lys Val Asn Leu Lys Thr Asn Gln Phe Thr His  
 485 490 495  
 Leu Pro Val Ser Asn Ile Leu Asp Asp Leu Asp Leu Leu Thr Gln Ile  
 500 505 510  
 Asp Leu Glu Asp Asn Pro Trp Asp Cys Ser Cys Asp Leu Val Gly Leu  
 515 520 525  
 Gln Gln Trp Ile Gln Lys Leu Ser Lys Asn Thr Val Thr Asp Asp Ile  
 530 535 540  
 Leu Cys Thr Ser Pro Gly His Leu Asp Lys Lys Glu Leu Lys Ala Leu  
 545 550 555 560  
 Asn Ser Glu Ile Leu Cys Pro Gly Leu Val Asn Asn Pro Ser Met Pro  
 565 570 575  
 Thr Gln Thr Ser Tyr Leu Met Val Thr Thr Pro Ala Thr Thr Asn  
 580 585 590  
 Thr Ala Asp Thr Ile Leu Arg Ser Leu Thr Asp Ala Val Pro Leu Ser  
 595 600 605  
 Val Leu Ile Leu Gly Leu Leu Ile Met Phe Ile Thr Ile Val Phe Cys  
 610 615 620  
 Ala Ala Gly Ile Val Val Leu Val Leu His Arg Arg Arg Arg Tyr Lys  
 625 630 635 640  
 Lys Lys Gln Val Asp Glu Gln Met Arg Asp Asn Ser Pro Val His Leu  
 645 650 655  
 Gln Tyr Ser Met Tyr Gly His Lys Thr Thr His His Thr Thr Glu Arg  
 660 665 670  
 Pro Ser Ala Ser Leu Tyr Glu Gln His Met Gly Ala His Glu Glu Leu  
 675 680 685  
 Lys Leu Met Glu Thr Leu Met Tyr Ser Arg Pro Arg Lys Val Leu Val  
 690 695 700  
 Glu Gln Thr Lys Asn Glu Tyr Phe Glu Leu Lys Ala Asn Leu His Ala  
 705 710 715 720  
 Glu Pro Asp Tyr Leu Glu Val Leu Glu Gln Gln Thr  
 725 730

<210> 76  
 <211> 1620  
 <212> DNA  
 <213> Homo sapiens

<400> 76  
 tcggatttca tcacatgaca acatgaagct gtggattcat ctcttttatt catctctcct 60  
 tgcctgtata tctttacact cccaaactcc agtgctctca tccagaggct cttgtgattc 120  
 tctttgcaat tgtgaggaaa aagatggcac aatgctaata aattgtgaag caaaagggtat 180  
 caagatggta tctgaaataa gtgtgccacc atcacgacct ttccaactaa gcttattaaa 240  
 taacggcttg acgatgcttc acacaaatga cttttctggg cttaccaatg ctatttcaat 300  
 acaccttgga tttacaataa ttgcagatat tgagataggt gcattttaatg gccttggcct 360  
 cctgaaacaa cttcatatca atcacaattc tttagaaatt cttaaagagg atactttcca 420  
 tggactggaa aacctggaat tcctgcaagc agataacaat tttatcacag tgattgaacc 480  
 aagtgccttt agcaagctca acagactcaa agtggttaatt ttaaagaca atgctattga 540  
 gagtcttcct ccaaacatct tccgatttgt tcctttaacc catctagatc ttcgtggaaa 600  
 tcaattacaa acattgcctt atgttgggtt tctcgaacac attggccgaa tattggatct 660  
 tcagttggag gacaacaaat gggcctgcaa ttgtgactta ttgcagttaa aaacttggtt 720  
 ggagaacatg cctccacagt ctataattgg tgatgttgct tgcaacagcc ctccattttt 780  
 taaaggaagt atactcagta gactaaagaa ggaatctatt tgccctactc caccagtgtg 840  
 tgaagaacat gaggatcctt caggatcatt acatctggca gcaacatctt caataaatga 900  
 tagtcgcatg tcaactaaga ccacgtccat tctaaaacta cccaccaaag caccagggtt 960  
 gataccttat attacaaagc catccactca acttccagga ccttactgcc ctatttccttg 1020  
 taactgcaaa gtccctatccc catcaggact tctaatacat tgtcaggagc gcaacattga 1080  
 aagcttatca gatctgagac ctccctccgca aaatccctaga aagctcattc tagcgggaaa 1140  
 tattattcac agtttaaatga agtccatcct ttgggtccaaa gcatctggaa gaggaagaag 1200

agaggaatga	gaaagaagga	agtgatgcaa	aacatctcca	aagaagtctt	ttggaacagg	1260
aaaatcattc	accactcaca	gggtcaaata	tgaaatacaa	aaccacgaac	caatcaacag	1320
aattttttatc	cttccaagat	gccagctcat	tgtacagaaa	catttttagaa	aaagaaaggg	1380
aacttcagca	actgggaatc	acagaatacc	taaggaaaaa	cattgctcag	ctccagcctg	1440
atatggaggc	acattatcct	ggagcccacg	aagagctgaa	gttaatggaa	acattaatgt	1500
actcacgtcc	aaggaaggta	ttagtggaa	agacaaaaaa	tgagtatttt	gaacttaaag	1560
ctaattttaca	tgctgaacct	gactatttag	aagtcctgga	gcagcaaaca	tagatggaga	1620

<210> 77  
 <211> 2555  
 <212> DNA  
 <213> Homo sapiens

<400> 77						
tgggatttca	tcacatgaca	acatgaagct	gtggatttcat	ctctttttatt	catctctcct	60
tgccctgtata	tcttttacct	cccaaactcc	agtgtctctca	tccagaggct	cttgtgattc	120
tcttttgaat	tgtgaggaaa	aagatggcac	aatgctaata	aattgtgaag	caaaaggtat	180
caagatggta	tctgaaataa	gtgtgccacc	atcacgacct	ttccaactaa	gcttatttaa	240
taacggcttg	acgatgcttc	acacaaatga	cttttctggg	cttaccaatg	ctatttcaat	300
acaccttggga	tttaacaata	ttgcagatat	tgagataggt	gcatttaatg	gccttggcct	360
cctgaaacaa	cttcatatca	atcacaaatc	tttagaaatt	cttaaagagg	atactttcca	420
tggaactggaa	aacctggaat	tcctgcaagc	agataacaat	tttatcacag	tgattgaacc	480
aagtgccttt	agcaagctca	acagactcaa	agtgttaatt	ttaaatgaca	atgctattga	540
gagtcttctc	ccaaacatct	tccgatttgt	tcctttaacc	catctagatc	ttcgtggaaa	600
tcaattacaa	acattgcctt	atgttgggtt	tctcgaacac	attggccgaa	tattggatct	660
tcagttggag	gacaacaaat	gggcctgcaa	ttgtgactta	ttgcagttaa	aaacttggtt	720
ggagaacatg	cctccacagt	ctataattgg	tgatgttgtc	tgcaacagcc	ctccattttt	780
taaaggaagt	atactcagta	gactaaagaa	ggaatctatt	tgccctactc	caccagtgtg	840
tgaagaacat	gaggatcctt	caggatcatt	acatctggca	gcaacatctt	caataaatga	900
tagtcgcatg	tcaactaaga	ccacgtccat	tctaaaacta	cccaccaaag	caccagggtt	960
gataccttat	attacaaagc	catccactca	acttccagga	ccttactgcc	ctattccttg	1020
taactgcaaa	gtcctatccc	catcaggact	tctaatacat	tgtcaggagc	gcaacattga	1080
aagcttatca	gatctgagac	ctcctccgca	aaatcctaga	aagctcattc	tagcgggaaa	1140
tattattcac	agtttaatat	agtctgatct	agtggaaatg	ttcacttttg	aaatgcttca	1200
cttgggaaac	aatcgtattg	aagttcctga	agaaggatcg	tttatgaacc	taacgagatt	1260
acaaaaactc	tatctaataat	gtaaccacct	gaccaaatga	agtaaaggca	tgttccttgg	1320
tctccataat	cttgaatact	tatatcttga	atacaatgcc	attaaggaaa	tactgccagg	1380
aacctttaat	ccaatgccta	aacttaaagt	cctgtattta	aataacaacc	tcctccaagt	1440
tttaccacca	catatttttt	caggggttcc	tctaactaag	gtaaatctta	aaacaaacca	1500
gtttacccat	ctacctgtaa	gtaatatatt	ggatgatctt	gatttactaa	cccagattga	1560
ccttgaggat	aacccctggg	actgctcctg	tgacctgggt	ggactgcagc	aatggataca	1620
aaagttaagc	agaacacag	tgacagatga	catcctctgc	acttcccccg	ggcatctcga	1680
caaaaaggaa	ttgaaagccc	taaaatagtg	aattctctgt	ccaggtttag	taaaataacc	1740
atccatgcca	acacagacta	gttaccttat	ggtcaccact	cctgcaacaa	caacaaatc	1800
ggctgatact	attttaccgat	ctcttacgga	cgctgtgcca	ctgtctgttc	taatattggg	1860
acttctgatt	atgttcatca	ctattgtttt	ctgtgctgca	gggatagtgg	ttcttgttct	1920
tcaccgcagg	agaagataca	aaaagaaaca	agtagatgag	caaatgagag	acaacagtcc	1980
tgtgcatctt	cagtacagca	tgtatggcca	taaaaccact	catcacacta	ctgaaagacc	2040
ctctgcctca	ctctatgaac	agcacatggt	gagccccatg	gttcatgtct	atagaagtcc	2100
atccttttgg	ccaaagcatc	tggaagagga	agaagagagg	aatgagaaag	aaggaagtga	2160
tgcaaaaacat	ctccaaagaa	gtccttttgg	acaggaaaaat	cattcaccac	tcacaggggtc	2220
aaatatgaaa	tacaaaacca	cgaaccaatc	aacagaattt	ttatccttcc	aagatgccag	2280
ctcattgtac	agaaaacatt	tagaaaaaga	aagggaactt	cagcaactgg	gaatcacaga	2340
atacctaagg	aaaaacattg	ctcagctcca	gcctgatatg	gaggcacatt	atcctggagc	2400
ccacgaagag	ctgaagttaa	tggaacacatt	aatgtactca	cgtccaagga	aggtattagt	2460
ggaacagaca	aaaaatgagt	attttgaact	taaagctaatt	ttacatgctg	aacctgacta	2520
tttagaagtc	ctggagcagc	aaacatagat	ggaga			2555

<210> 78  
 <211> 1620  
 <212> DNA  
 <213> Homo sapiens

```

<400> 78
tcggatttca tcacatgaca acatgaagct gtggattcat ctcttttatt catctctcct 60
tgcctgtata tctttacact cccaaactcc agtgctctca tccagaggct cttgtgattc 120
tctttgcaat tgtgaggaaa aagatggcac aatgctaata aattgtgaag caaaagggtat 180
caagatggta tctgaaataa gtgtgccacc atcacgacct ttccaactaa gcttattaaa 240
taacggcttg acgatgcttc acacaaatga cttttctggg cttaccaatg ctatttcaat 300
acaccttgga tttaacaata ttgcagatat tgagataggt gcattttaatg gccttggcct 360
cctgaaacaa cttcatatca atcacaaattc tttagaaatt cttaaagagg atactttcca 420
tggactggaa aacctggaat tcctgcaagc agataacaat tttatcacag tgattgaacc 480
aagtgccttt agcaagctca acagactcaa agtggttaatt ttaaatgaca atgctattga 540
gagtcttctt ccaaaccatct tccgatttgt tcctttaacc catctagatc ttcgtggaaa 600
tcaattacaa acattgcctt atgttgggtt tctcgaacac attggccgaa tattggatct 660
tcagttggag gacaacaaat gggcctgcaa ttgtgactta ttgcagttaa aaacttggtt 720
ggagaacatg cctccacagt ctataattgg tgatgttgtc tgcaacagcc ctccattttt 780
taaaggaagt atactcagta gactaaagaa ggaatctatt tgccctactc caccagtgt 840
tgaagaacat gaggatcctt caggatcatt acatctggca gcaacatctt caataaatga 900
tagtgcctat tcaactaaga ccacgtccat tctaaaacta cccaccaaag caccaggttt 960
gataccttat attacaaagc catccactca acttccagga cttactgcc ctattccttg 1020
taactgcaaa gtcctatccc catcaggact tctaatacat tgtcaggagc gcaacattga 1080
aagcttatca gatctgagac ctctccgca aaatcctaga aagctcattc tagcgggaaa 1140
tattattcac agtttaaatga agtccatcct ttggtccaaa gcatctggaa gaggaagaag 1200
agaggaatga gaaagaagga agtgatgcaa aacatctcca aagaagtctt ttggaacagg 1260
aaaatcattc accactcaca gggtc aaata tgaaatacaa aaccacgaac caatcaacag 1320
aatttttatc cttccaagat gccagctcat tgtacagaaa catttttagaa aaagaaaggg 1380
aacttcagca actgggaatc acagaatacc taaggaaaaa cattgctcag ctccagcctg 1440
atatggaggc acattatcct ggagcccacg aagagctgaa gttaatggaa acattaatgt 1500
actcacgtcc aaggaaggta ttagtggaac agacaaaaaa tgagtatttt gaacttaag 1560
ctaatttaca tgctgaacct gactatttag aagtcctgga gcagcaaaca tagatggaga 1620

```

```

<210> 79
<211> 395
<212> PRT
<213> Homo sapiens

```

```

<400> 79
Met Lys Leu Trp Ile His Leu Phe Tyr Ser Ser Leu Leu Ala Cys Ile
 1           5           10           15
Ser Leu His Ser Gln Thr Pro Val Leu Ser Ser Arg Gly Ser Cys Asp
 20           25           30
Ser Leu Cys Asn Cys Glu Glu Lys Asp Gly Thr Met Leu Ile Asn Cys
 35           40           45
Glu Ala Lys Gly Ile Lys Met Val Ser Glu Ile Ser Val Pro Pro Ser
 50           55           60
Arg Pro Phe Gln Leu Ser Leu Leu Asn Asn Gly Leu Thr Met Leu His
 65           70           75           80
Thr Asn Asp Phe Ser Gly Leu Thr Asn Ala Ile Ser Ile His Leu Gly
 85           90           95
Phe Asn Asn Ile Ala Asp Ile Glu Ile Gly Ala Phe Asn Gly Leu Gly
 100          105          110
Leu Leu Lys Gln Leu His Ile Asn His Asn Ser Leu Glu Ile Leu Lys
 115          120          125
Glu Asp Thr Phe His Gly Leu Glu Asn Leu Glu Phe Leu Gln Ala Asp
 130          135          140
Asn Asn Phe Ile Thr Val Ile Glu Pro Ser Ala Phe Ser Lys Leu Asn
 145          150          155          160
Arg Leu Lys Val Leu Ile Leu Asn Asp Asn Ala Ile Glu Ser Leu Pro
 165          170          175
Pro Asn Ile Phe Arg Phe Val Pro Leu Thr His Leu Asp Leu Arg Gly
 180          185          190
Asn Gln Leu Gln Thr Leu Pro Tyr Val Gly Phe Leu Glu His Ile Gly
 195          200          205
Arg Ile Leu Asp Leu Gln Leu Glu Asp Asn Lys Trp Ala Cys Asn Cys
 210          215          220

```

Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser
225					230					235					240
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser
				245					250					255	
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val
			260					265					270		
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr
		275					280					285			
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu
	290					295					300				
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro
305					310					315					320
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys
				325					330					335	
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile
			340					345					350		
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu	
		355					360				365				
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Ile	Leu	Trp
	370					375					380				
Ser	Lys	Ala	Ser	Gly	Arg	Gly	Arg	Arg	Glu	Glu					
385					390					395					

<210> 80  
 <211> 841  
 <212> PRT  
 <213> Homo sapiens

<400> 80

Met	Lys	Leu	Trp	Ile	His	Leu	Phe	Tyr	Ser	Ser	Leu	Leu	Ala	Cys	Ile
1				5					10					15	
Ser	Leu	His	Ser	Gln	Thr	Pro	Val	Leu	Ser	Ser	Arg	Gly	Ser	Cys	Asp
			20					25					30		
Ser	Leu	Cys	Asn	Cys	Glu	Glu	Lys	Asp	Gly	Thr	Met	Leu	Ile	Asn	Cys
		35					40					45			
Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile	Ser	Val	Pro	Pro	Ser
	50					55					60				
Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly	Leu	Thr	Met	Leu	His
65					70					75					80
Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile	Ser	Ile	His	Leu	Gly
				85					90					95	
Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala	Phe	Asn	Gly	Leu	Gly
			100					105					110		
Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys
		115					120					125			
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp
	130					135					140				
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn
145					150					155					160
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro
			165						170					175	
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly
		180						185					190		
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly
		195					200					205			
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys
	210					215					220				
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser
225					230					235					240
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser
				245					250					255	
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val
			260					265					270		

Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr	
		275					280					285				
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu	
		290				295					300					
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro	
305					310					315					320	
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys	
				325				330						335		
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile	
			340					345					350			
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu	
		355					360					365				
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Asp	Leu	Val	
		370				375					380					
Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu	Gly	Asn	Asn	Arg	Ile	Glu	
385					390					395					400	
Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu	Thr	Arg	Leu	Gln	Lys	Leu	
				405					410					415		
Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu	Ser	Lys	Gly	Met	Phe	Leu	
			420					425					430			
Gly	Leu	His	Asn	Leu	Glu	Tyr	Leu	Tyr	Leu	Glu	Tyr	Asn	Ala	Ile	Lys	
		435					440					445				
Glu	Ile	Leu	Pro	Gly	Thr	Phe	Asn	Pro	Met	Pro	Lys	Leu	Lys	Val	Leu	
		450				455					460					
Tyr	Leu	Asn	Asn	Asn	Leu	Leu	Gln	Val	Leu	Pro	Pro	His	Ile	Phe	Ser	
465					470					475					480	
Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys	Thr	Asn	Gln	Phe	Thr	His	
				485					490					495		
Leu	Pro	Val	Ser	Asn	Ile	Leu	Asp	Asp	Leu	Asp	Leu	Leu	Thr	Gln	Ile	
			500				505						510			
Asp	Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Ser	Cys	Asp	Leu	Val	Gly	Leu	
		515					520					525				
Gln	Gln	Trp	Ile	Gln	Lys	Leu	Ser	Lys	Asn	Thr	Val	Thr	Asp	Asp	Ile	
		530				535					540					
Leu	Cys	Thr	Ser	Pro	Gly	His	Leu	Asp	Lys	Lys	Glu	Leu	Lys	Ala	Leu	
545					550					555					560	
Asn	Ser	Glu	Ile	Leu	Cys	Pro	Gly	Leu	Val	Asn	Asn	Pro	Ser	Met	Pro	
				565					570					575		
Thr	Gln	Thr	Ser	Tyr	Leu	Met	Val	Thr	Thr	Pro	Ala	Thr	Thr	Thr	Asn	
			580					585					590			
Thr	Ala	Asp	Thr	Ile	Leu	Arg	Ser	Leu	Thr	Asp	Ala	Val	Pro	Leu	Ser	
		595					600					605				
Val	Leu	Ile	Leu	Gly	Leu	Leu	Ile	Met	Phe	Ile	Thr	Ile	Val	Phe	Cys	
		610				615					620					
Ala	Ala	Gly	Ile	Val	Val	Leu	Val	Leu	His	Arg	Arg	Arg	Arg	Tyr	Lys	
625					630				635						640	
Lys	Lys	Gln	Val	Asp	Glu	Gln	Met	Arg	Asp	Asn	Ser	Pro	Val	His	Leu	
				645					650					655		
Gln	Tyr	Ser	Met	Tyr	Gly	His	Lys	Thr	Thr	His	His	Thr	Thr	Glu	Arg	
			660					665					670			
Pro	Ser	Ala	Ser	Leu	Tyr	Glu	Gln	His	Met	Val	Ser	Pro	Met	Val	His	
		675					680					685				
Val	Tyr	Arg	Ser	Pro	Ser	Phe	Gly	Pro	Lys	His	Leu	Glu	Glu	Glu	Glu	
		690				695					700					
Glu	Arg	Asn	Glu	Lys	Glu	Gly	Ser	Asp	Ala	Lys	His	Leu	Gln	Arg	Ser	
705					710				715						720	
Leu	Leu	Glu	Gln	Glu	Asn	His	Ser	Pro	Leu	Thr	Gly	Ser	Asn	Met	Lys	
				725					730					735		
Tyr	Lys	Thr	Thr	Asn	Gln	Ser	Thr	Glu	Phe	Leu	Ser	Phe	Gln	Asp	Ala	
			740					745					750			
Ser	Ser	Leu	Tyr	Arg	Asn	Ile	Leu	Glu	Lys	Glu	Arg	Glu	Leu	Gln	Gln	
		755					760					765				
Leu	Gly	Ile	Thr	Glu	Tyr	Leu	Arg	Lys	Asn	Ile	Ala	Gln	Leu	Gln	Pro	
		770				775					780					

Asp	Met	Glu	Ala	His	Tyr	Pro	Gly	Ala	His	Glu	Glu	Leu	Lys	Leu	Met
785					790					795					800
Glu	Thr	Leu	Met	Tyr	Ser	Arg	Pro	Arg	Lys	Val	Leu	Val	Glu	Gln	Thr
				805					810					815	
Lys	Asn	Glu	Tyr	Phe	Glu	Leu	Lys	Ala	Asn	Leu	His	Ala	Glu	Pro	Asp
			820					825					830		
Tyr	Leu	Glu	Val	Leu	Glu	Gln	Gln	Thr							
		835					840								

<210> 81  
 <211> 395  
 <212> PRT  
 <213> Homo sapiens

<400> 81

Met	Lys	Leu	Trp	Ile	His	Leu	Phe	Tyr	Ser	Ser	Leu	Leu	Ala	Cys	Ile
1				5					10					15	
Ser	Leu	His	Ser	Gln	Thr	Pro	Val	Leu	Ser	Ser	Arg	Gly	Ser	Cys	Asp
			20					25					30		
Ser	Leu	Cys	Asn	Cys	Glu	Glu	Lys	Asp	Gly	Thr	Met	Leu	Ile	Asn	Cys
		35					40					45			
Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile	Ser	Val	Pro	Pro	Ser
	50					55					60				
Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly	Leu	Thr	Met	Leu	His
65					70					75					80
Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile	Ser	Ile	His	Leu	Gly
				85					90					95	
Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala	Phe	Asn	Gly	Leu	Gly
			100					105					110		
Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys
		115					120						125		
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp
	130					135					140				
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn
145					150					155					160
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro
				165					170						175
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly
			180					185					190		
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly
		195					200					205			
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys
	210					215					220				
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser
225					230					235					240
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser
				245					250					255	
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val
			260					265					270		
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr
	275						280					285			
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu
	290					295					300				
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro
305					310					315					320
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys
				325					330					335	
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile
			340					345					350		
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu
	355						360					365			
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Ile	Leu	Trp
	370					375					380				

Ser Lys Ala Ser Gly Arg Gly Arg Arg Glu Glu  
 385 390 395

<210> 82  
 <211> 3300  
 <212> DNA  
 <213> Homo sapiens

<400> 82  
 gcgtcgacaa caagaaatac tagaaaagga ggaaggagaa cattgctgca gcttggatct 60  
 acaacctaag aaagcaagag tgatcaatct cagctctgtt aaacatcttg tttacttact 120  
 gcattcagca gcttgcaaat ggtaaactat atgcaaaaaa gtcagcatag ctgtgaagta 180  
 tgccgtgaat ttttaattgag ggaaaaagga caattgcttc aggatgctct agtatgcact 240  
 ctgcttgaaa tattttcaat gaaatgctca gtattctatc tttgaccaga ggttttaact 300  
 ttatgaagct atgggacttg acaaaaagtg atatttgaga agaaagtacg cagtggttgg 360  
 tgttttcttt tttttaataa aggaattgaa ttactttgaa cacctcttcc agctgtgcat 420  
 tacagataac gtcaggaaga gtctctgctt tacagaatcg gatttcatca catgacaaca 480  
 tgaagctgtg gattcatctc ttttattcat ctctccttgc ctgtatatct ttacactccc 540  
 aaactccagt gctctcatcc agaggctctt gtgattctct ttgcaattgt gaggaaaaag 600  
 atggcacaat gctaataaat tgtgaagcaa aaggatatca gatggtatct gaaataagtg 660  
 tgccaccatc acgacctttc caactaagct tattaataaa cggcttgacg atgcttcaca 720  
 caaatgactt ttctgggctt accaatgcta tttcaataca ccttggattt aacaatattg 780  
 cagatattga gataggtgca tttaatggcc ttggcctcct gaaacaactt catatcaatc 840  
 acaattcttt agaaattctt aaagaggata ctttccatgg actggaaaac ctggaattcc 900  
 tgcaagcaga taacaatttt atcacagtga ttgaaccaag tgcccttagc aagctcaaca 960  
 gactcaaagt gtttaatttta aatgacaatg ctattgagag tcttctcca aacatcttcc 1020  
 gatttgttcc ttttaaccat ctgatcttc gtggaaatca attacaaaca ttgccttatg 1080  
 ttggttttct cgaacacatt ggccgaatat tggatcttca gttggaggac acaaatggg 1140  
 cctgcaattg tgacttattg cagttaaaaa cttgggttga gaacatgcct ccacagtcta 1200  
 taattggtga tgtgtctgc aacagccctc catTTTTTaa aggaagtata ctcagtagac 1260  
 taaagaagga atctatttgc cctactccac cagtgtatga agaacatgag gatccttcag 1320  
 gatcattaca tctggcagca acatcttcaa taaatgatag tcgcatgtca actaagacca 1380  
 cgtccattct aaaactaccc accaaagcac caggtttgat accttatatt acaaagccat 1440  
 ccactcaact tccaggacct tactgccta ttcttgtaa ctgcaaagtc ctatccccat 1500  
 caggacttct aatacatgtt caggagcgca acattgaaag cttatcagat ctgagacctc 1560  
 ctccgcaaaa tcttagaaag ctcatcttag cgggaaatat tattcacagt ttaatgaagt 1620  
 ctgatctagt ggaatatctt actttggaaa tgcttactt gggaaacaat cgtattgaag 1680  
 ttcttgaaga aggatcgttt atgaacctaa cgagattaca aaaactctat ctaaattggt 1740  
 accacctgac caaattaagt aaaggcatgt tccttgggtc ccataatctt gaatacttat 1800  
 atcttgaata caatgccatt aaggaaatac tgccagggaac ctttaatcca atgcctaaac 1860  
 ttaaagtcct gtattttaaat aacaacctcc tccaagtttt accaccacat attttttcag 1920  
 gggttcctct aactaaggta aatcttaaaa caaacagtt taccatcta cctgtaagta 1980  
 atattttgga tgatcttgat ttactaacc agattgacct tgaggataac ccttgggact 2040  
 gctcctgtga cctggttgga ctgcagcataa ggatacaaaa gttaaagcaag aacacagtga 2100  
 cagatgacat cctctgcact tccccgggc atctcgacaa aaaggaattg aaagccctaa 2160  
 atagtgaat tctctgtcca ggtttagtaa ataaccatc catgccaaca cagactagtt 2220  
 accttatggt caccactcct gcaacaacaa caaatacggc tgatactatt ttacgatctc 2280  
 ttacggacgc tgtgccactg tctgttctaa tattgggact tctgattatg ttcactacta 2340  
 ttgttttctg tgctgcaggg atagtgttct ttgttcttca ccgcaggaga agatacaaaa 2400  
 agaaacaagt agatgagcaa atgagagaca acagtcctgt gcatcttcag tacagcatgt 2460  
 atggccataa aaccactcat cacactactg aaagacctc tgccctactc tatgaacagc 2520  
 acatggtgag ccccatggtt catgtctata gaagtccatc ctttgggtcca aagcatctgg 2580  
 aagaggaaga agagaggat gagaaagaag gaagtgatgc aaacatctc caaagaagtc 2640  
 ttttgaaca ggaaatcat tcaccactca cagggtcaaa tatgaaatac aaaaccacga 2700  
 accaatcaac agaattttta tcttccaag atgccagctc attgtacaga aacatttttag 2760  
 aaaaagaaag ggaacttcag caactgggaa tcacagaata cctaaggaaa aacattgctc 2820  
 agctccagcc tgatatggag gcacattatc ctggagccca cgaagagctg aagttaatgg 2880  
 aaacattaat gtactcacgt ccaaggaagg tattagtgga acagacaaaa aatgagtatt 2940  
 ttgaacttaa agctaattta catgctgaac ctgactattt agaagtcctg gagcagcaaa 3000  
 catagatgga gagttgaggg ctttcgccag aaatgctgtg attctgttat taagtccata 3060  
 ccttgtaaat aagtgcctta cgtgagtgtg tcatcaatca gaacctaaag acagagtaaa 3120  
 ctatggggaa aaaaaaacga gacgaaacag aaactcaggg atcactggga gaagccatgg 3180  
 cataatcttc aggcaattta gtctgtccca aataaacata catccttggc atgtaaatca 3240

tcaagggttaa tagtaatatt catatacctg aaacgtgtct cataggagtc ctctctgcac 3300

<210> 83  
 <211> 2555  
 <212> DNA  
 <213> Homo sapiens

<400> 83  
 tcggatttca tcacatgaca acatgaagct gtggattcat ctcttttatt catctctcct 60  
 tgccgtgtata tctttacact cccaaactcc agtgctctca tccagaggct cttgtgattc 120  
 tctttgcaat tgtgaggaaa aagatggcac aatgctaata aattgtgaag caaaaggat 180  
 caagatggta tctgaaataa gtgtgccacc atcacgacct ttccaactaa gcttattaaa 240  
 taacggccttg acgatgcttc acacaaatga cttttctggg cttaccaatg ctatttcaat 300  
 acaccttgga tttaacaata ttgcagatat tgagataggt gcattttaatg gccttggcct 360  
 cctgaaacaa cttcatatca atcacaaatc tttagaaatt cttaaagagg atactttcca 420  
 tggactggaa aacctggaat tcctgcaagc agataacaat tttatcacag tgattgaacc 480  
 aagtgccttt agcaagctca acagactcaa agtgtttaatt ttaaatagaca atgctattga 540  
 gagtcttcct ccaaacatct tccgatttgt tcctttaacc catctagatc ttcgtggaaa 600  
 tcaattacaa acattgcctt atgttgggtt tctcgaacac attggccgaa tattggatct 660  
 tcagttggag gacaacaaat gggcctgcaa ttgtgactta ttgcagttaa aaacttgggt 720  
 ggagaacatg cctccacagt ctataattgg tgatgttgtc tgcaacagcc ctccattttt 780  
 taaaggaagt atactcagta gactaaagaa ggaatctatt tgccctactc caccagtgt 840  
 tgaagaacat gaggatcctt caggatcatt acatctggca gcaacatctt caataaatga 900  
 tagtcgcatg tcaactaaga ccacgtccat tctaaaacta cccaccaaag caccaggttt 960  
 gataccttat attacaaagc catccactca acttccagga ccttactgcc ctattccttg 1020  
 taactgcaaa gtccatccc catcaggact tctaatacat tgtcaggagc gcaacattga 1080  
 aagcttatca gatctgagac ctccctcgca aaatcctaga aagctcattc tagcgggaaa 1140  
 tattattcac agtttaatat agtctgatct agtggaaat ttcacttttg aaatgcttca 1200  
 cttgggaaac aatcgatttg aagttcttga agaaggatcg tttatgaacc taacgagatt 1260  
 acaaaaactc tatctaaatg gtaaccacct gaccaaatta agtaaaggca tgttccttgg 1320  
 tctccataat cttgaatact tatatcttga atacaatgcc attaaggaaa tactgccagg 1380  
 aacctttaat ccaatgccta aacttaaagt cctgtattta aataacaacc tcctccaagt 1440  
 tttaccacca catatttttt caggggttcc tctaactaag gtaaatctta aaacaaacca 1500  
 gtttaccat ctacctgtaa gtaatatatt ggatgatctt gatttactaa cccagattga 1560  
 ccttgaggat aacctctggg actgctcctg tgacctggtt ggactgcagc aatggatata 1620  
 aaagttaagc aagaacacag tgacagatga catcctctgc acttcccccg ggcatctcga 1680  
 caaaaaggaa ttgaaagccc taaatagtga aattctctgt ccagggttag taaataaccc 1740  
 atccatgcca acacagacta gttaccttat ggtcaccact cctgcaacaa caacaaatac 1800  
 ggctgatact attttacgat ctcttacgga cgctgtgcca ctgtctgttc taatattggg 1860  
 acttctgatt atgttcatca ctattgtttt ctgtgctgca gggatagtgg ttcttgttct 1920  
 tcaccgcagg agaagataca aaaagaaaca agtagatgag caaatgagag acaacagtcc 1980  
 tgtgcatctt cagtacagca tgtatggcca taaaaccact catcacacta ctgaaagacc 2040  
 ctctgcctca ctctatgaac agcatatggt gagccccatg gttcatgtct atagaagtc 2100  
 atcctttggt ccaaagcatc tggaagagga agaagagagg aatgagaaag aaggaagtga 2160  
 tgcaaaacat ctccaaagaa gtcttttggg acaggaaaat cattcaccac tcacagggtc 2220  
 aaatatgaaa taaaaaacca cgaaccaatc aacagaattt ttatccttcc aagatgccag 2280  
 ctcatgttac agaaacattt tagaaaaaga aagggaactt cagcaactgg gaatcacaga 2340  
 atacctaaag aaaaacattg ctgagctcca gcctgatatg gaggcacatt atcctggagc 2400  
 ccacgaagag ctgaagttaa tggaaacatt aatgtactca cgtccaagga aggtattagt 2460  
 ggaacagaca aaaaatgagt attttgaact taaagctaatt ttacatgctg aacctgacta 2520  
 tttagaagtc ctggagcagc aaacatagat ggaga 2555

<210> 84  
 <211> 3300  
 <212> DNA  
 <213> Homo sapiens

<400> 84  
 gcgtcgacaa caagaaatac tagaaaagga ggaaggagaa cattgctgca gcttggatct 60  
 acaacctaaag aaagcaagag tgatcaatct cagctctgtt aaacatcttg tttacttact 120  
 gccttcagca gcttgcaaat ggttaactat atgcataaaa gtcagcatag ctgtgaagta 180  
 tgccgtgaat ttttaattgag ggaaaaagga caattgcttc aggatgctct agtatgcact 240  
 ctgcttgaaa tattttcaat gaaatgctca gtattctatc tttgaccaga ggttttaact 300



```

ttatgaagct atgggacttg acaaaaagt atatttgaga agaaagtacg cagtgggttg 360
tgttttcttt tttttaataa aggaattgaa ttactttgaa cacctcttcc agctgtgcat 420
tacagataac gtcaggaaga gtctctgctt tacagaatcg gatttcatca catgacaaca 480
tgaagctgtg gattcatctc ttttattcat ctctccttgc ctgtatatct ttacactccc 540
aaactccagt gctctcatcc agaggctctt gtgattctct ttgcaattgt gaggaaaaag 600
atggcacaat gctaataaat tgtgaagcaa aaggatatcaa gatggtatct gaaataagt 660
tgccaccatc acgacctttc caactaagct tattaataaa cggcttgacg atgcttcaca 720
caaatgactt ttctgggctt accaatgcta tttcaatata ccttggattt aacaatattg 780
cagatattga gatagggtga tttaattggc ttggcctcct gaaacaactt catatcaatc 840
acaattcttt agaaattctt aaagaggata ctttccatgg actggaaaac ctggaattcc 900
tgcaagcaga taacaatttt atcacagtga ttgaaccaag tgccttttagc aagctcaaca 960
gactcaaagt gttaatttta aatgacaatg ctattgagag tcttcctcca aacatcttcc 1020
gatttgttcc tttaacccat ctagatcttc gtggaaatca attacaaaca ttgccttatg 1080
ttgggtttct cgaacacatt ggccgaatat tggatcttca gttggaggac aacaaatggg 1140
cctgcaattg tgacttattg cagttaaaaa cttggttgga gaacatgcct ccacagtcta 1200
taattggtga tgttgtctgc aacagccctc cattttttta aggaagtata ctcatgtagc 1260
taaagaagga atctatattg cctactccac cagtgtatga agaacatgag gatccttcag 1320
gatcattaca tctggcagca acatcttcaa taaatgatag tcgcatgtca actaagacca 1380
cgtccattct aaaactaccc accaaagcac caggtttgat accttatatt acaaagccat 1440
ccactcaact tccaggacct tactgcctta ttccttgtaa ctgcaaagtc ctatcccat 1500
caggacttct aatacattgt caggagcgca acattgaaag cttatcagat ctgagacctc 1560
ctccgcaaaa tcttagaaa ctcattctag cgggaaatat tattcacagt ttaatgaagt 1620
ctgatctagt ggaatatttc actttggaaa tgcttcactt gggaaacaat cgtattgaag 1680
ttcttgaaga aggatcgttt atgaacctaa cgagattaca aaaactctat ctaaattggt 1740
accacctgac caaattaagt aaaggcatgt tccttgggtc ccataatctt gaatacttat 1800
atcttgaata caatgccatt aaggaaatac tgccaggaac ctttaatcca atgcctaaac 1860
ttaagtccct gtatttaaat aacaacctcc tccaagtttt accaccacat attttttcag 1920
gggttccctc aactaaggta aatcttaaaa caaaccagtt taccatctta cctgtaagta 1980
atattttgga tgatcttgat ttactaacc cagattgacct tgaggataac ccctgggact 2040
gtcctgtgga cctggttgga ctgcagcaat ggatacaaaa gttaagcaag aacacagtga 2100
cagatgacat cctctgcact tccccgggc atctcgacaa aaaggaattg aaagccctaa 2160
atagtgaat tctctgtcca ggttagtaa ataaccatc catgccaaca cagactagtt 2220
accttatggt caccactcct gcaacaacaa caaatacggc tgatactatt ttacgatctc 2280
ttacggacgc tgtgccactg tctgttctaa tattgggact tctgattatg ttcatcacta 2340
ttgtttctg tgctgcaggg atagtgttc ttgttcttca ccgcaggaga agatacaaaa 2400
agaacaagt agatgagcaa atgagagaca acagtccgtg gcatcttcag tacagcatgt 2460
atggccataa aaccactcat cacactactg aaagaccctc tgccctcactc tatgaacagc 2520
acatggtgag ccccatggtt catgtctata gaagtccatc ctttgggtcca aagcatctgg 2580
aagaggaaga agagaggaat gagaaagaag gaagtgatgc aaaacatctc caaagaagtc 2640
ttttggaaca ggaaaatcat tcaccactca cagggtcaaa tatgaaatac aaaaccacga 2700
accaatcaac agaattttta tccttccaag atgccagctc attgtacaga aacatttttag 2760
aaaaagaaa ggaacttcag caactgggaa tcacagaata cctaaggaaa aacattgctc 2820
agctccagcc tgatatggag gcacattatc ctggagccca cgaagagctg aagttaatgg 2880
aaacattaat gtactcacgt ccaaggaagg tattagtgga acagacaaaa aatgagtatt 2940
ttgaacttaa agctaattta catgctgaac ctagctattt agaagtcctg gagcagcaaa 3000
catagatgga gagttgaggg ctttcgccag aaatgctgtg attctgttat taagtccata 3060
ccttgtaaat aagtgcctta cgtgagtgtg tcatcaatca gaacctaaagc acagagtaaa 3120
ctatggggaa aaaaaagaa gacgaaacag aaactcaggg atcactggga gaagccatgg 3180
cataatcttc aggcaattta gtctgtccca aataaacata catccttggc atgtaaatca 3240
tcaagggtaa tagtaatatt catatacctg aaacgtgtct cataggagtc ctctctgcac 3300

```

<210> 85  
 <211> 841  
 <212> PRT  
 <213> Homo sapiens

<400> 85  
 Met Lys Leu Trp Ile His Leu Phe Tyr Ser Ser Leu Leu Ala Cys Ile  
 1 5 10 15  
 Ser Leu His Ser Gln Thr Pro Val Leu Ser Ser Arg Gly Ser Cys Asp  
 20 25 30  
 Ser Leu Cys Asn Cys Glu Glu Lys Asp Gly Thr Met Leu Ile Asn Cys  
 35 40 45

Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile	Ser	Val	Pro	Pro	Ser	
50						55					60					
Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly	Leu	Thr	Met	Leu	His	
65					70					75					80	
Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile	Ser	Ile	His	Leu	Gly	
				85					90					95		
Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala	Phe	Asn	Gly	Leu	Gly	
			100					105					110			
Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys	
		115					120					125				
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp	
130						135					140					
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn	
145					150					155					160	
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro	
				165				170						175		
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly	
			180					185					190			
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly	
		195					200					205				
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys	
	210				215						220					
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser	
225					230					235					240	
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser	
				245					250					255		
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val	
			260					265					270			
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr	
	275						280					285				
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu	
	290					295					300					
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro	
305					310					315					320	
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys	
				325					330					335		
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile	
			340					345					350			
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu	
	355						360					365				
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Asp	Leu	Val	
	370				375						380					
Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu	Gly	Asn	Asn	Arg	Ile	Glu	
385					390					395					400	
Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu	Thr	Arg	Leu	Gln	Lys	Leu	
				405					410					415		
Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu	Ser	Lys	Gly	Met	Phe	Leu	
			420					425					430			
Gly	Leu	His	Asn	Leu	Glu	Tyr	Leu	Tyr	Leu	Glu	Tyr	Asn	Ala	Ile	Lys	
	435						440					445				
Glu	Ile	Leu	Pro	Gly	Thr	Phe	Asn	Pro	Met	Pro	Lys	Leu	Lys	Val	Leu	
	450					455					460					
Tyr	Leu	Asn	Asn	Asn	Leu	Leu	Gln	Val	Leu	Pro	Pro	His	Ile	Phe	Ser	
465					470					475					480	
Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys	Thr	Asn	Gln	Phe	Thr	His	
				485					490					495		
Leu	Pro	Val	Ser	Asn	Ile	Leu	Asp	Asp	Leu	Asp	Leu	Leu	Thr	Gln	Ile	
			500					505					510			
Asp	Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Ser	Cys	Asp	Leu	Val	Gly	Leu	
	515						520					525				
Gln	Gln	Trp	Ile	Gln	Lys	Leu	Ser	Lys	Asn	Thr	Val	Thr	Asp	Asp	Ile	
	530					535					540					
Leu	Cys	Thr	Ser	Pro	Gly	His	Leu	Asp	Lys	Lys	Glu	Leu	Lys	Ala	Leu	
545					550					555					560	

Asn	Ser	Glu	Ile	Leu	Cys	Pro	Gly	Leu	Val	Asn	Asn	Pro	Ser	Met	Pro	
				565					570					575		
Thr	Gln	Thr	Ser	Tyr	Leu	Met	Val	Thr	Thr	Pro	Ala	Thr	Thr	Thr	Asn	
				580					585					590		
Thr	Ala	Asp	Thr	Ile	Leu	Arg	Ser	Leu	Thr	Asp	Ala	Val	Pro	Leu	Ser	
		595					600					605				
Val	Leu	Ile	Leu	Gly	Leu	Leu	Ile	Met	Phe	Ile	Thr	Ile	Val	Phe	Cys	
	610					615					620					
Ala	Ala	Gly	Ile	Val	Val	Leu	Val	Leu	His	Arg	Arg	Arg	Arg	Tyr	Lys	
	625				630					635					640	
Lys	Lys	Gln	Val	Asp	Glu	Gln	Met	Arg	Asp	Asn	Ser	Pro	Val	His	Leu	
				645					650					655		
Gln	Tyr	Ser	Met	Tyr	Gly	His	Lys	Thr	Thr	His	His	Thr	Thr	Glu	Arg	
			660					665						670		
Pro	Ser	Ala	Ser	Leu	Tyr	Glu	Gln	His	Met	Val	Ser	Pro	Met	Val	His	
		675					680					685				
Val	Tyr	Arg	Ser	Pro	Ser	Phe	Gly	Pro	Lys	His	Leu	Glu	Glu	Glu	Glu	
	690					695					700					
Glu	Arg	Asn	Glu	Lys	Glu	Gly	Ser	Asp	Ala	Lys	His	Leu	Gln	Arg	Ser	
	705				710					715					720	
Leu	Leu	Glu	Gln	Glu	Asn	His	Ser	Pro	Leu	Thr	Gly	Ser	Asn	Met	Lys	
				725					730					735		
Tyr	Lys	Thr	Thr	Asn	Gln	Ser	Thr	Glu	Phe	Leu	Ser	Phe	Gln	Asp	Ala	
		740						745					750			
Ser	Ser	Leu	Tyr	Arg	Asn	Ile	Leu	Glu	Lys	Glu	Arg	Glu	Leu	Gln	Gln	
		755					760					765				
Leu	Gly	Ile	Thr	Glu	Tyr	Leu	Arg	Lys	Asn	Ile	Ala	Gln	Leu	Gln	Pro	
	770					775					780					
Asp	Met	Glu	Ala	His	Tyr	Pro	Gly	Ala	His	Glu	Glu	Leu	Lys	Leu	Met	
	785				790					795					800	
Glu	Thr	Leu	Met	Tyr	Ser	Arg	Pro	Arg	Lys	Val	Leu	Val	Glu	Gln	Thr	
				805					810					815		
Lys	Asn	Glu	Tyr	Phe	Glu	Leu	Lys	Ala	Asn	Leu	His	Ala	Glu	Pro	Asp	
			820					825					830			
Tyr	Leu	Glu	Val	Leu	Glu	Gln	Gln	Thr								
		835					840									

<210> 86  
 <211> 841  
 <212> PRT  
 <213> Homo sapiens

<400> 86

Met	Lys	Leu	Trp	Ile	His	Leu	Phe	Tyr	Ser	Ser	Leu	Leu	Ala	Cys	Ile	
1				5					10					15		
Ser	Leu	His	Ser	Gln	Thr	Pro	Val	Leu	Ser	Ser	Arg	Gly	Ser	Cys	Asp	
			20					25					30			
Ser	Leu	Cys	Asn	Cys	Glu	Glu	Lys	Asp	Gly	Thr	Met	Leu	Ile	Asn	Cys	
		35					40					45				
Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile	Ser	Val	Pro	Pro	Ser	
	50					55					60					
Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly	Leu	Thr	Met	Leu	His	
	65				70					75					80	
Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile	Ser	Ile	His	Leu	Gly	
			85					90						95		
Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala	Phe	Asn	Gly	Leu	Gly	
			100					105					110			
Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys	
		115					120					125				
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp	
	130					135					140					
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn	
	145				150					155					160	

Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro
			165						170					175	
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly
			180					185					190		
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly
		195					200					205			
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys
	210					215					220				
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser
	225				230					235					240
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser
			245						250					255	
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val
			260						265					270	
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr
		275					280					285			
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu
		290				295					300				
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro
	305				310					315					320
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys
			325						330					335	
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile
			340					345					350		
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu
		355					360					365			
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Asp	Leu	Val
		370				375					380				
Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu	Gly	Asn	Asn	Arg	Ile	Glu
	385				390					395					400
Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu	Thr	Arg	Leu	Gln	Lys	Leu
			405						410					415	
Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu	Ser	Lys	Gly	Met	Phe	Leu
			420					425					430		
Gly	Leu	His	Asn	Leu	Glu	Tyr	Leu	Tyr	Leu	Glu	Tyr	Asn	Ala	Ile	Lys
		435					440					445			
Glu	Ile	Leu	Pro	Gly	Thr	Phe	Asn	Pro	Met	Pro	Lys	Leu	Lys	Val	Leu
		450				455					460				
Tyr	Leu	Asn	Asn	Asn	Leu	Leu	Gln	Val	Leu	Pro	Pro	His	Ile	Phe	Ser
	465				470					475					480
Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys	Thr	Asn	Gln	Phe	Thr	His
			485						490					495	
Leu	Pro	Val	Ser	Asn	Ile	Leu	Asp	Asp	Leu	Asp	Leu	Leu	Thr	Gln	Ile
			500					505					510		
Asp	Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Ser	Cys	Asp	Leu	Val	Gly	Leu
		515					520					525			
Gln	Gln	Trp	Ile	Gln	Lys	Leu	Ser	Lys	Asn	Thr	Val	Thr	Asp	Asp	Ile
		530				535					540				
Leu	Cys	Thr	Ser	Pro	Gly	His	Leu	Asp	Lys	Lys	Glu	Leu	Lys	Ala	Leu
					550					555					560
Asn	Ser	Glu	Ile	Leu	Cys	Pro	Gly	Leu	Val	Asn	Asn	Pro	Ser	Met	Pro
			565						570					575	
Thr	Gln	Thr	Ser	Tyr	Leu	Met	Val	Thr	Thr	Pro	Ala	Thr	Thr	Thr	Asn
			580					585						590	
Thr	Ala	Asp	Thr	Ile	Leu	Arg	Ser	Leu	Thr	Asp	Ala	Val	Pro	Leu	Ser
		595					600					605			
Val	Leu	Ile	Leu	Gly	Leu	Leu	Ile	Met	Phe	Ile	Thr	Ile	Val	Phe	Cys
		610				615					620				
Ala	Ala	Gly	Ile	Val	Val	Leu	Val	Leu	His	Arg	Arg	Arg	Arg	Tyr	Lys
					630					635					640
Lys	Lys	Gln	Val	Asp	Glu	Gln	Met	Arg	Asp	Asn	Ser	Pro	Val	His	Leu
			645						650					655	
Gln	Tyr	Ser	Met	Tyr	Gly	His	Lys	Thr	Thr	His	His	Thr	Thr	Glu	Arg
			660					665						670	

Pro	Ser	Ala	Ser	Leu	Tyr	Glu	Gln	His	Met	Val	Ser	Pro	Met	Val	His		
		675					680					685					
Val	Tyr	Arg	Ser	Pro	Ser	Phe	Gly	Pro	Lys	His	Leu	Glu	Glu	Glu	Glu		
		690				695					700						
Glu	Arg	Asn	Glu	Lys	Glu	Gly	Ser	Asp	Ala	Lys	His	Leu	Gln	Arg	Ser		
705					710					715					720		
Leu	Leu	Glu	Gln	Glu	Asn	His	Ser	Pro	Leu	Thr	Gly	Ser	Asn	Met	Lys		
				725					730					735			
Tyr	Lys	Thr	Thr	Asn	Gln	Ser	Thr	Glu	Phe	Leu	Ser	Phe	Gln	Asp	Ala		
			740					745					750				
Ser	Ser	Leu	Tyr	Arg	Asn	Ile	Leu	Glu	Lys	Glu	Arg	Glu	Leu	Gln	Gln		
		755					760					765					
Leu	Gly	Ile	Thr	Glu	Tyr	Leu	Arg	Lys	Asn	Ile	Ala	Gln	Leu	Gln	Pro		
	770					775					780						
Asp	Met	Glu	Ala	His	Tyr	Pro	Gly	Ala	His	Glu	Glu	Leu	Lys	Leu	Met		
785					790					795					800		
Glu	Thr	Leu	Met	Tyr	Ser	Arg	Pro	Arg	Lys	Val	Leu	Val	Glu	Gln	Thr		
				805					810					815			
Lys	Asn	Glu	Tyr	Phe	Glu	Leu	Lys	Ala	Asn	Leu	His	Ala	Glu	Pro	Asp		
			820					825					830				
Tyr	Leu	Glu	Val	Leu	Glu	Gln	Gln	Thr									
		835					840										

<210> 87  
 <211> 841  
 <212> PRT  
 <213> Homo sapiens

<400> 87

Met	Lys	Leu	Trp	Ile	His	Leu	Phe	Tyr	Ser	Ser	Leu	Leu	Ala	Cys	Ile		
1				5					10					15			
Ser	Leu	His	Ser	Gln	Thr	Pro	Val	Leu	Ser	Ser	Arg	Gly	Ser	Cys	Asp		
			20					25					30				
Ser	Leu	Cys	Asn	Cys	Glu	Glu	Lys	Asp	Gly	Thr	Met	Leu	Ile	Asn	Cys		
		35					40					45					
Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile	Ser	Val	Pro	Pro	Ser		
	50					55					60						
Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly	Leu	Thr	Met	Leu	His		
65					70					75					80		
Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile	Ser	Ile	His	Leu	Gly		
				85					90					95			
Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala	Phe	Asn	Gly	Leu	Gly		
			100					105					110				
Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys		
		115					120					125					
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp		
	130					135					140						
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn		
145					150					155					160		
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro		
				165					170					175			
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly		
		180						185					190				
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly		
		195					200						205				
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys		
	210					215						220					
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser		
225					230					235					240		
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser		
				245					250					255			
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val		
			260					265						270			

Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr	
		275					280					285				
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu	
		290				295					300					
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro	
305					310					315					320	
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys	
				325				330						335		
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile	
			340					345					350			
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu	
		355					360					365				
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Asp	Leu	Val	
		370				375					380					
Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu	Gly	Asn	Asn	Arg	Ile	Glu	
385					390					395					400	
Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu	Thr	Arg	Leu	Gln	Lys	Leu	
				405					410					415		
Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu	Ser	Lys	Gly	Met	Phe	Leu	
			420					425					430			
Gly	Leu	His	Asn	Leu	Glu	Tyr	Leu	Tyr	Leu	Glu	Tyr	Asn	Ala	Ile	Lys	
		435					440					445				
Glu	Ile	Leu	Pro	Gly	Thr	Phe	Asn	Pro	Met	Pro	Lys	Leu	Lys	Val	Leu	
		450				455					460					
Tyr	Leu	Asn	Asn	Asn	Leu	Leu	Gln	Val	Leu	Pro	Pro	His	Ile	Phe	Ser	
465					470					475					480	
Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys	Thr	Asn	Gln	Phe	Thr	His	
				485					490					495		
Leu	Pro	Val	Ser	Asn	Ile	Leu	Asp	Asp	Leu	Asp	Leu	Leu	Thr	Gln	Ile	
			500				505						510			
Asp	Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Ser	Cys	Asp	Leu	Val	Gly	Leu	
		515					520					525				
Gln	Gln	Trp	Ile	Gln	Lys	Leu	Ser	Lys	Asn	Thr	Val	Thr	Asp	Asp	Ile	
		530				535					540					
Leu	Cys	Thr	Ser	Pro	Gly	His	Leu	Asp	Lys	Lys	Glu	Leu	Lys	Ala	Leu	
545					550					555					560	
Asn	Ser	Glu	Ile	Leu	Cys	Pro	Gly	Leu	Val	Asn	Asn	Pro	Ser	Met	Pro	
				565					570					575		
Thr	Gln	Thr	Ser	Tyr	Leu	Met	Val	Thr	Thr	Pro	Ala	Thr	Thr	Thr	Asn	
			580					585					590			
Thr	Ala	Asp	Thr	Ile	Leu	Arg	Ser	Leu	Thr	Asp	Ala	Val	Pro	Leu	Ser	
		595					600					605				
Val	Leu	Ile	Leu	Gly	Leu	Leu	Ile	Met	Phe	Ile	Thr	Ile	Val	Phe	Cys	
		610				615					620					
Ala	Ala	Gly	Ile	Val	Val	Leu	Val	Leu	His	Arg	Arg	Arg	Arg	Tyr	Lys	
625					630					635					640	
Lys	Lys	Gln	Val	Asp	Glu	Gln	Met	Arg	Asp	Asn	Ser	Pro	Val	His	Leu	
				645					650					655		
Gln	Tyr	Ser	Met	Tyr	Gly	His	Lys	Thr	Thr	His	His	Thr	Thr	Glu	Arg	
			660					665					670			
Pro	Ser	Ala	Ser	Leu	Tyr	Glu	Gln	His	Met	Val	Ser	Pro	Met	Val	His	
		675					680					685				
Val	Tyr	Arg	Ser	Pro	Ser	Phe	Gly	Pro	Lys	His	Leu	Glu	Glu	Glu	Glu	
		690				695					700					
Glu	Arg	Asn	Glu	Lys	Glu	Gly	Ser	Asp	Ala	Lys	His	Leu	Gln	Arg	Ser	
705					710					715					720	
Leu	Leu	Glu	Gln	Glu	Asn	His	Ser	Pro	Leu	Thr	Gly	Ser	Asn	Met	Lys	
				725					730					735		
Tyr	Lys	Thr	Thr	Asn	Gln	Ser	Thr	Glu	Phe	Leu	Ser	Phe	Gln	Asp	Ala	
			740					745					750			
Ser	Ser	Leu	Tyr	Arg	Asn	Ile	Leu	Glu	Lys	Glu	Arg	Glu	Leu	Gln	Gln	
		755					760					765				
Leu	Gly	Ile	Thr	Glu	Tyr	Leu	Arg	Lys	Asn	Ile	Ala	Gln	Leu	Gln	Pro	
		770				775					780					

Asp	Met	Glu	Ala	His	Tyr	Pro	Gly	Ala	His	Glu	Glu	Leu	Lys	Leu	Met
785					790					795					800
Glu	Thr	Leu	Met	Tyr	Ser	Arg	Pro	Arg	Lys	Val	Leu	Val	Glu	Gln	Thr
				805					810					815	
Lys	Asn	Glu	Tyr	Phe	Glu	Leu	Lys	Ala	Asn	Leu	His	Ala	Glu	Pro	Asp
			820					825					830		
Tyr	Leu	Glu	Val	Leu	Glu	Gln	Gln	Thr							
	835						840								

<210> 88  
 <211> 1619  
 <212> DNA  
 <213> Homo sapiens

<400> 88

tcggatttca	tcacatgaca	acatgaagct	gtggattcat	ctcttttatt	catctctcct	60
tgccctgtata	tctttacact	cccaaactcc	agtgcctctca	tccagaggct	cttgtgattc	120
tctttgcaat	tgtgaggaaa	aagatggcac	aatgctaata	aattgtgaag	caaaaggat	180
caagatggta	tctgaaataa	gtgtgccacc	atcacgacct	ttccaactaa	gcttattaaa	240
taacggcttg	acgatgcttc	acacaaatga	cttttctggg	cttaccaatg	ctatttcaat	300
acaccttgga	tttaacaata	ttgcagatat	tgagataggt	gcattttaatg	gccttggcct	360
cctgaaacaa	cttcatatca	atcacaaattc	tttagaaatt	cttaaagagg	atactttcca	420
tggactggaa	aacctggaat	tcctgcaagc	agataacaat	tttatcacag	tgattgaacc	480
aagtgccttt	agcaagctca	acagactcaa	agtgttaatt	ttaaatgaca	atgctattga	540
gagtcttcct	ccaaacatct	tccgatttgt	tcctttaacc	catctagatc	ttcgtggaaa	600
tcaattacaa	acattgcctt	atgttggttt	tctcgaacac	attggccgaa	tattggatct	660
tcagttggag	gacaacaaat	gggcctgcaa	ttgtgactta	ttgcagttaa	aaacttggtt	720
ggagaacatg	cctccacagt	ctataattgg	tgatgttgtc	tgcaacagcc	ctccattttt	780
taaaggaagt	atactcagta	gactaaagaa	ggaatctatt	tgccctactc	caccagtgtg	840
tgaagaacat	gaggatcctt	caggatcatt	acatctggca	gcaacatctt	caataaatga	900
tagtcgcatg	tcaactaaga	ccacgtccat	tctaaaacta	cccaccaaag	caccagggtt	960
gataccttat	attacaaagc	catccactca	acttccagga	ccttactgcc	ctattccttg	1020
taactgcaaa	gtcctatccc	catcaggact	tctaatacat	tgtcaggagc	gcaacattga	1080
aagcttatca	gatctgagac	ctcctccgca	aaatcctaga	aagctcattc	tagcgggaaa	1140
tattattcac	agtttaatga	atccatcctt	tggtccaaag	catctggaag	aggaagaaga	1200
gaggaatgag	aaagaaggaa	gtgatgcaaa	acatctccaa	agaagtcttt	tggaacagga	1260
aaatcattca	ccactcacag	ggtcaaatat	gaaatacaaa	accacgaacc	aatcaacaga	1320
atttttatcc	ttccaagatg	ccagctcatt	gtacagaaac	atttttagaaa	aagaaaggga	1380
acttcagcaa	ctgggaatca	cagaatacct	aaggaaaaac	attgctcagc	tccagcctga	1440
tatggaggca	cattatcctg	gagcccacga	agagctgaag	ttaatggaaa	cattaatgta	1500
ctcacgtcca	aggaagggtat	tagtggaaaca	gacaaaaaat	gagtattttg	aacttaaagc	1560
taattttacat	gctgaacctg	actattttaga	agtccctggag	cagcaaacat	agatggaga	1619

<210> 89  
 <211> 1619  
 <212> DNA  
 <213> Homo sapiens

<400> 89

tcggatttca	tcacatgaca	acatgaagct	gtggattcat	ctcttttatt	catctctcct	60
tgccctgtata	tctttacact	cccaaactcc	agtgcctctca	tccagaggct	cttgtgattc	120
tctttgcaat	tgtgaggaaa	aagatggcac	aatgctaata	aattgtgaag	caaaaggat	180
caagatggta	tctgaaataa	gtgtgccacc	atcacgacct	ttccaactaa	gcttattaaa	240
taacggcttg	acgatgcttc	acacaaatga	cttttctggg	cttaccaatg	ctatttcaat	300
acaccttgga	tttaacaata	ttgcagatat	tgagataggt	gcattttaatg	gccttggcct	360
cctgaaacaa	cttcatatca	atcacaaattc	tttagaaatt	cttaaagagg	atactttcca	420
tggactggaa	aacctggaat	tcctgcaagc	agataacaat	tttatcacag	tgattgaacc	480
aagtgccttt	agcaagctca	acagactcaa	agtgttaatt	ttaaatgaca	atgctattga	540
gagtcttcct	ccaaacatct	tccgatttgt	tcctttaacc	catctagatc	ttcgtggaaa	600
tcaattacaa	acattgcctt	atgttggttt	tctcgaacac	attggccgaa	tattggatct	660
tcagttggag	gacaacaaat	gggcctgcaa	ttgtgactta	ttgcagttaa	aaacttggtt	720
ggagaacatg	cctccacagt	ctataattgg	tgatgttgtc	tgcaacagcc	ctccattttt	780
taaaggaagt	atactcagta	gactaaagaa	ggaatctatt	tgccctactc	caccagtgtg	840

tgaagaacat	gaggatcctt	caggatcatt	acatctggca	gcaacatctt	caataaatga	900
tagtcgcatg	tcaactaaga	ccacgtccat	tctaaaacta	cccaccaaag	caccagggtt	960
gataccttat	attacaaagc	catccactca	acttccagga	ccttactgcc	ctattccttg	1020
taactgcaaa	gtcctatccc	catcaggact	tctaatacat	tgtcaggagc	gcaacattga	1080
aagcttatca	gatctgagac	ctcctccgca	aaatcctaga	aagctcattc	tagcgggaaa	1140
tattattcac	agtttaaatga	atccatcctt	tggtccaaag	catctggaag	aggaagaaga	1200
gaggaatgag	aaagaaggaa	gtgatgcaaa	acatctccaa	agaagtcttt	tggaacagga	1260
aaatcattca	ccactcacag	ggtcaaatat	gaaatacaaa	accacgaacc	aatcaacaga	1320
atttttatcc	ttccaagatg	ccagctcatt	gtacagaaac	attttagaaa	aagaaaggga	1380
acttcagcaa	ctgggaatca	cagaatacct	aaggaaaaac	attgctcagc	tccagcctga	1440
tatggaggca	cattatcctg	gagcccacga	agagctgaag	ttaatggaaa	cattaatgta	1500
ctcacgtcca	aggaaggtat	tagtgggaaca	gacaaaaaat	gagtattttg	aacttaaagc	1560
taattttacat	gctgaacctg	actattttaga	agtctctggag	cagcaaacat	agatggaga	1619

<210> 90  
 <211> 1619  
 <212> DNA  
 <213> Homo sapiens

<400> 90						
tgggatttca	tcacatgaca	acatgaagct	gtggattcat	ctcttttatt	catctctcct	60
tgctgtata	tctttacact	ccaaaactcc	agtgtctctca	tccagaggct	cttgtgattc	120
tctttgcaat	tgtgaggaaa	aagatggcac	aatgctaata	aattgtgaag	caaaagggtat	180
caagatggta	tctgaaataa	gtgtgccacc	atcacgacct	ttccaactaa	gcttatttaa	240
taacggcttg	acgatgcttc	acacaaatga	cttttctggg	cttaccaatg	ctatttcaat	300
acaccttgga	tttaacaata	ttgcagatat	tgagataggt	gcattttaatg	gccttggcct	360
cctgaaacaa	cttcataatca	atcaccaattc	tttagaaatt	cttaaagagg	atactttcca	420
tggaactgaa	aacctggaat	tcctgcaagc	agataacaat	tttatcacag	tgattgaacc	480
aagtgccttt	agcaagctca	acagactcaa	agtgttaatt	ttaaatgaca	atgctattga	540
gagtcttcct	ccaaacatct	tccgatttgt	tcctttaacc	catctagatc	ttcgtggaaa	600
tcaattacaa	acattgcctt	atgttggttt	tctcgaacac	attggccgaa	tattggatct	660
tcagttggag	gacaacaaat	gggcctgcaa	ttgtgactta	ttgcagttaa	aaacttggtt	720
ggagaacatg	cctccacagt	ctataattgg	tgatgttgtc	tgcaacagcc	ctccattttt	780
taaaggaagt	atactcagta	gactaaagaa	ggaatctatt	tgccctactc	caccagtgtg	840
tgaagaacat	gaggatcctt	caggatcatt	acatctggca	gcaacatctt	caataaatga	900
tagtcgcatg	tcaactaaga	ccacgtccat	tctaaaacta	cccaccaaag	caccagggtt	960
gataccttat	attacaaagc	catccactca	acttccagga	ccttactgcc	ctattccttg	1020
taactgcaaa	gtcctatccc	catcaggact	tctaatacat	tgtcaggagc	gcaacattga	1080
aagcttatca	gatctgagac	ctcctccgca	aaatcctaga	aagctcattc	tagcgggaaa	1140
tattattcac	agtttaaatga	atccatcctt	tggtccaaag	catctggaag	aggaagaaga	1200
gaggaatgag	aaagaaggaa	gtgatgcaaa	acatctccaa	agaagtcttt	tggaacagga	1260
aaatcattca	ccactcacag	ggtcaaatat	gaaatacaaa	accacgaacc	aatcaacaga	1320
atttttatcc	ttccaagatg	ccagctcatt	gtacagaaac	attttagaaa	aagaaaggga	1380
acttcagcaa	ctgggaatca	cagaatacct	aaggaaaaac	attgctcagc	tccagcctga	1440
tatggaggca	cattatcctg	gagcccacga	agagctgaag	ttaatggaaa	cattaatgta	1500
ctcacgtcca	aggaaggtat	tagtgggaaca	gacaaaaaat	gagtattttg	aacttaaagc	1560
taattttacat	gctgaacctg	actattttaga	agtctctggag	cagcaaacat	agatggaga	1619

<210> 91  
 <211> 529  
 <212> PRT  
 <213> Homo sapiens

<400> 91															
Met	Lys	Leu	Trp	Ile	His	Leu	Phe	Tyr	Ser	Ser	Leu	Leu	Ala	Cys	Ile
1				5					10					15	
Ser	Leu	His	Ser	Gln	Thr	Pro	Val	Leu	Ser	Ser	Arg	Gly	Ser	Cys	Asp
			20					25					30		
Ser	Leu	Cys	Asn	Cys	Glu	Glu	Lys	Asp	Gly	Thr	Met	Leu	Ile	Asn	Cys
		35					40				45				
Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile	Ser	Val	Pro	Pro	Ser
	50					55					60				
Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly	Leu	Thr	Met	Leu	His
65					70					75					80



Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile	Ser	Ile	His	Leu	Gly	
				85					90					95		
Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala	Phe	Asn	Gly	Leu	Gly	
			100						105				110			
Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys	
		115					120					125				
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp	
	130					135					140					
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn	
145					150					155					160	
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro	
			165						170						175	
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly	
			180						185				190			
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly	
		195					200					205				
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys	
	210					215					220					
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser	
225					230					235					240	
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser	
			245						250					255		
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val	
			260						265				270			
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr	
	275						280					285				
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu	
	290					295					300					
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro	
305					310					315					320	
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys	
			325						330					335		
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile	
			340						345				350			
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu		
	355						360				365					
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Asn	Pro	Ser	Phe	Gly	
	370					375					380					
Pro	Lys	His	Leu	Glu	Glu	Glu	Glu	Glu	Arg	Asn	Glu	Lys	Glu	Gly	Ser	
385					390					395					400	
Asp	Ala	Lys	His	Leu	Gln	Arg	Ser	Leu	Leu	Glu	Gln	Glu	Asn	His	Ser	
			405						410					415		
Pro	Leu	Thr	Gly	Ser	Asn	Met	Lys	Tyr	Lys	Thr	Thr	Asn	Gln	Ser	Thr	
			420					425					430			
Glu	Phe	Leu	Ser	Phe	Gln	Asp	Ala	Ser	Ser	Leu	Tyr	Arg	Asn	Ile	Leu	
	435						440					445				
Glu	Lys	Glu	Arg	Glu	Leu	Gln	Gln	Leu	Gly	Ile	Thr	Glu	Tyr	Leu	Arg	
	450					455					460					
Lys	Asn	Ile	Ala	Gln	Leu	Gln	Pro	Asp	Met	Glu	Ala	His	Tyr	Pro	Gly	
465					470					475					480	
Ala	His	Glu	Glu	Leu	Lys	Leu	Met	Glu	Thr	Leu	Met	Tyr	Ser	Arg	Pro	
			485						490					495		
Arg	Lys	Val	Leu	Val	Glu	Gln	Thr	Lys	Asn	Glu	Tyr	Phe	Glu	Leu	Lys	
			500					505					510			
Ala	Asn	Leu	His	Ala	Glu	Pro	Asp	Tyr	Leu	Glu	Val	Leu	Glu	Gln	Gln	
		515					520					525				

Thr

<210> 92  
 <211> 841  
 <212> PRT  
 <213> Homo sapiens

<400> 92

Met	Lys	Leu	Trp	Ile	His	Leu	Phe	Tyr	Ser	Ser	Leu	Leu	Ala	Cys	Ile	
1				5					10					15		
Ser	Leu	His	Ser	Gln	Thr	Pro	Val	Leu	Ser	Ser	Arg	Gly	Ser	Cys	Asp	
			20					25					30			
Ser	Leu	Cys	Asn	Cys	Glu	Glu	Lys	Asp	Gly	Thr	Met	Leu	Ile	Asn	Cys	
		35					40					45				
Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile	Ser	Val	Pro	Pro	Ser	
	50					55					60					
Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly	Leu	Thr	Met	Leu	His	
65					70					75					80	
Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile	Ser	Ile	His	Leu	Gly	
			85						90					95		
Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala	Phe	Asn	Gly	Leu	Gly	
			100				105						110			
Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys	
		115					120					125				
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp	
	130					135					140					
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn	
145					150					155					160	
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro	
			165					170						175		
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly	
		180					185					190				
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly	
		195					200					205				
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys	
	210					215					220					
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser	
225					230					235					240	
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser	
			245					250						255		
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val	
		260						265					270			
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr	
	275						280					285				
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu	
	290					295					300					
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro	
305					310					315					320	
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys	
			325						330					335		
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile	
		340						345					350			
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu	
		355					360					365				
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Asp	Leu	Val	
	370					375					380					
Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu	Gly	Asn	Asn	Arg	Ile	Glu	
385					390					395					400	
Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu	Thr	Arg	Leu	Gln	Lys	Leu	
			405						410					415		
Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu	Ser	Lys	Gly	Met	Phe	Leu	
		420						425					430			
Gly	Leu	His	Asn	Leu	Glu	Tyr	Leu	Tyr	Leu	Glu	Tyr	Asn	Ala	Ile	Lys	
		435					440					445				
Glu	Ile	Leu	Pro	Gly	Thr	Phe	Asn	Pro	Met	Pro	Lys	Leu	Lys	Val	Leu	
	450					455					460					
Tyr	Leu	Asn	Asn	Asn	Leu	Leu	Gln	Val	Leu	Pro	His	Ile	Phe	Ser		
465					470					475				480		
Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys	Thr	Asn	Gln	Phe	Thr	His	
			485						490					495		

Leu	Pro	Val	Ser	Asn	Ile	Leu	Asp	Asp	Leu	Asp	Leu	Leu	Thr	Gln	Ile		
			500					505					510				
Asp	Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Ser	Cys	Asp	Leu	Val	Gly	Leu		
		515					520					525					
Gln	Gln	Trp	Ile	Gln	Lys	Leu	Ser	Lys	Asn	Thr	Val	Thr	Asp	Asp	Ile		
	530					535					540						
Leu	Cys	Thr	Ser	Pro	Gly	His	Leu	Asp	Lys	Lys	Glu	Leu	Lys	Ala	Leu		
545					550					555					560		
Asn	Ser	Glu	Ile	Leu	Cys	Pro	Gly	Leu	Val	Asn	Asn	Pro	Ser	Met	Pro		
				565					570					575			
Thr	Gln	Thr	Ser	Tyr	Leu	Met	Val	Thr	Thr	Pro	Ala	Thr	Thr	Thr	Asn		
			580					585						590			
Thr	Ala	Asp	Thr	Ile	Leu	Arg	Ser	Leu	Thr	Asp	Ala	Val	Pro	Leu	Ser		
	595						600					605					
Val	Leu	Ile	Leu	Gly	Leu	Leu	Ile	Met	Phe	Ile	Thr	Ile	Val	Phe	Cys		
	610					615					620						
Ala	Ala	Gly	Ile	Val	Val	Leu	Val	Leu	His	Arg	Arg	Arg	Arg	Tyr	Lys		
625					630					635					640		
Lys	Lys	Gln	Val	Asp	Glu	Gln	Met	Arg	Asp	Asn	Ser	Pro	Val	His	Leu		
				645					650					655			
Gln	Tyr	Ser	Met	Tyr	Gly	His	Lys	Thr	Thr	His	His	Thr	Thr	Glu	Arg		
			660					665					670				
Pro	Ser	Ala	Ser	Leu	Tyr	Glu	Gln	His	Met	Val	Ser	Pro	Met	Val	His		
		675					680					685					
Val	Tyr	Arg	Ser	Pro	Ser	Phe	Gly	Pro	Lys	His	Leu	Glu	Glu	Glu	Glu		
	690					695					700						
Glu	Arg	Asn	Glu	Lys	Glu	Gly	Ser	Asp	Ala	Lys	His	Leu	Gln	Arg	Ser		
705					710					715					720		
Leu	Leu	Glu	Gln	Glu	Asn	His	Ser	Pro	Leu	Thr	Gly	Ser	Asn	Met	Lys		
				725					730					735			
Tyr	Lys	Thr	Thr	Asn	Gln	Ser	Thr	Glu	Phe	Leu	Ser	Phe	Gln	Asp	Ala		
			740					745					750				
Ser	Ser	Leu	Tyr	Arg	Asn	Ile	Leu	Glu	Lys	Glu	Arg	Glu	Leu	Gln	Gln		
		755					760					765					
Leu	Gly	Ile	Thr	Glu	Tyr	Leu	Arg	Lys	Asn	Ile	Ala	Gln	Leu	Gln	Pro		
	770					775					780						
Asp	Met	Glu	Ala	His	Tyr	Pro	Gly	Ala	His	Glu	Glu	Leu	Lys	Leu	Met		
785					790					795					800		
Glu	Thr	Leu	Met	Tyr	Ser	Arg	Pro	Arg	Lys	Val	Leu	Val	Glu	Gln	Thr		
				805					810					815			
Lys	Asn	Glu	Tyr	Phe	Glu	Leu	Lys	Ala	Asn	Leu	His	Ala	Glu	Pro	Asp		
			820					825					830				
Tyr	Leu	Glu	Val	Leu	Glu	Gln	Gln	Thr									
		835					840										

<210> 93  
 <211> 529  
 <212> PRT  
 <213> Homo sapiens

<400> 93  
 Met Lys Leu Trp Ile His Leu Phe Tyr Ser Ser Leu Leu Ala Cys Ile  
 1 5 10 15  
 Ser Leu His Ser Gln Thr Pro Val Leu Ser Ser Arg Gly Ser Cys Asp  
 20 25 30  
 Ser Leu Cys Asn Cys Glu Glu Lys Asp Gly Thr Met Leu Ile Asn Cys  
 35 40 45  
 Glu Ala Lys Gly Ile Lys Met Val Ser Glu Ile Ser Val Pro Pro Ser  
 50 55 60  
 Arg Pro Phe Gln Leu Ser Leu Leu Asn Asn Gly Leu Thr Met Leu His  
 65 70 75 80  
 Thr Asn Asp Phe Ser Gly Leu Thr Asn Ala Ile Ser Ile His Leu Gly  
 85 90 95

Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala	Phe	Asn	Gly	Leu	Gly
			100					105					110		
Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys
		115					120					125			
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp
	130					135					140				
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn
145					150					155					160
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro
			165						170					175	
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly
			180					185					190		
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly
	195						200					205			
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys
	210					215					220				
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser
225					230					235					240
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser
			245						250					255	
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val
			260					265					270		
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr
	275						280					285			
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu
	290					295					300				
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro
305					310					315					320
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys
				325					330					335	
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile
			340					345					350		
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu
	355						360					365			
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Asn	Pro	Ser	Phe	Gly
	370					375					380				
Pro	Lys	His	Leu	Glu	Glu	Glu	Glu	Glu	Arg	Asn	Glu	Lys	Glu	Gly	Ser
385					390					395					400
Asp	Ala	Lys	His	Leu	Gln	Arg	Ser	Leu	Leu	Glu	Gln	Glu	Asn	His	Ser
				405					410					415	
Pro	Leu	Thr	Gly	Ser	Asn	Met	Lys	Tyr	Lys	Thr	Thr	Asn	Gln	Ser	Thr
			420					425					430		
Glu	Phe	Leu	Ser	Phe	Gln	Asp	Ala	Ser	Ser	Leu	Tyr	Arg	Asn	Ile	Leu
	435						440					445			
Glu	Lys	Glu	Arg	Glu	Leu	Gln	Leu	Gly	Ile	Thr	Glu	Tyr	Leu	Arg	
	450					455				460					
Lys	Asn	Ile	Ala	Gln	Leu	Gln	Pro	Asp	Met	Glu	Ala	His	Tyr	Pro	Gly
465					470					475					480
Ala	His	Glu	Glu	Leu	Lys	Leu	Met	Glu	Thr	Leu	Met	Tyr	Ser	Arg	Pro
				485					490					495	
Arg	Lys	Val	Leu	Val	Glu	Gln	Thr	Lys	Asn	Glu	Tyr	Phe	Glu	Leu	Lys
			500					505					510		
Ala	Asn	Leu	His	Ala	Glu	Pro	Asp	Tyr	Leu	Glu	Val	Leu	Glu	Gln	Gln
			515				520					525			

Thr

<210> 94  
 <211> 841  
 <212> PRT  
 <213> Homo sapiens

<400> 94

Met	Lys	Leu	Trp	Ile	His	Leu	Phe	Tyr	Ser	Ser	Leu	Leu	Ala	Cys	Ile	
1				5					10					15		
Ser	Leu	His	Ser	Gln	Thr	Pro	Val	Leu	Ser	Ser	Arg	Gly	Ser	Cys	Asp	
			20					25					30			
Ser	Leu	Cys	Asn	Cys	Glu	Glu	Lys	Asp	Gly	Thr	Met	Leu	Ile	Asn	Cys	
		35					40					45				
Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile	Ser	Val	Pro	Pro	Ser	
	50					55					60					
Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly	Leu	Thr	Met	Leu	His	
65					70					75					80	
Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile	Ser	Ile	His	Leu	Gly	
			85						90					95		
Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala	Phe	Asn	Gly	Leu	Gly	
			100						105				110			
Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys	
		115					120					125				
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp	
	130					135					140					
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn	
145					150					155					160	
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro	
			165						170					175		
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly	
		180						185					190			
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly	
	195						200					205				
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys	
	210					215					220					
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser	
225					230					235					240	
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser	
			245						250					255		
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val	
		260						265					270			
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr	
	275						280					285				
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu	
	290					295					300					
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro	
305					310					315					320	
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys	
			325						330					335		
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile	
		340						345					350			
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu		
	355						360				365					
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Asp	Leu	Val	
	370				375						380					
Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu	Gly	Asn	Asn	Arg	Ile	Glu	
385					390					395					400	
Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu	Thr	Arg	Leu	Gln	Lys	Leu	
			405						410					415		
Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu	Ser	Lys	Gly	Met	Phe	Leu	
		420						425					430			
Gly	Leu	His	Asn	Leu	Glu	Tyr	Leu	Tyr	Leu	Glu	Tyr	Asn	Ala	Ile	Lys	
	435						440					445				
Glu	Ile	Leu	Pro	Gly	Thr	Phe	Asn	Pro	Met	Pro	Lys	Leu	Lys	Val	Leu	
	450					455					460					
Tyr	Leu	Asn	Asn	Asn	Leu	Leu	Gln	Val	Leu	Pro	Pro	His	Ile	Phe	Ser	
465					470					475					480	
Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys	Thr	Asn	Gln	Phe	Thr	His	
			485						490					495		
Leu	Pro	Val	Ser	Asn	Ile	Leu	Asp	Asp	Leu	Asp	Leu	Leu	Thr	Gln	Ile	
			500					505					510			

Asp	Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Ser	Cys	Asp	Leu	Val	Gly	Leu		
		515					520					525					
Gln	Gln	Trp	Ile	Gln	Lys	Leu	Ser	Lys	Asn	Thr	Val	Thr	Asp	Asp	Ile		
		530					535				540						
Leu	Cys	Thr	Ser	Pro	Gly	His	Leu	Asp	Lys	Lys	Glu	Leu	Lys	Ala	Leu		
545					550					555					560		
Asn	Ser	Glu	Ile	Leu	Cys	Pro	Gly	Leu	Val	Asn	Asn	Pro	Ser	Met	Pro		
				565					570					575			
Thr	Gln	Thr	Ser	Tyr	Leu	Met	Val	Thr	Thr	Pro	Ala	Thr	Thr	Thr	Asn		
			580					585					590				
Thr	Ala	Asp	Thr	Ile	Leu	Arg	Ser	Leu	Thr	Asp	Ala	Val	Pro	Leu	Ser		
		595					600					605					
Val	Leu	Ile	Leu	Gly	Leu	Leu	Ile	Met	Phe	Ile	Thr	Ile	Val	Phe	Cys		
		610					615				620						
Ala	Ala	Gly	Ile	Val	Val	Leu	Val	Leu	His	Arg	Arg	Arg	Arg	Tyr	Lys		
625					630					635					640		
Lys	Lys	Gln	Val	Asp	Glu	Gln	Met	Arg	Asp	Asn	Ser	Pro	Val	His	Leu		
				645					650					655			
Gln	Tyr	Ser	Met	Tyr	Gly	His	Lys	Thr	Thr	His	His	Thr	Thr	Glu	Arg		
			660					665					670				
Pro	Ser	Ala	Ser	Leu	Tyr	Glu	Gln	His	Met	Val	Ser	Pro	Met	Val	His		
		675					680					685					
Val	Tyr	Arg	Ser	Pro	Ser	Phe	Gly	Pro	Lys	His	Leu	Glu	Glu	Glu	Glu		
		690				695					700						
Glu	Arg	Asn	Glu	Lys	Glu	Gly	Ser	Asp	Ala	Lys	His	Leu	Gln	Arg	Ser		
705					710					715					720		
Leu	Leu	Glu	Gln	Glu	Asn	His	Ser	Pro	Leu	Thr	Gly	Ser	Asn	Met	Lys		
				725					730					735			
Tyr	Lys	Thr	Thr	Asn	Gln	Ser	Thr	Glu	Phe	Leu	Ser	Phe	Gln	Asp	Ala		
			740					745					750				
Ser	Ser	Leu	Tyr	Arg	Asn	Ile	Leu	Glu	Lys	Glu	Arg	Glu	Leu	Gln	Gln		
		755					760					765					
Leu	Gly	Ile	Thr	Glu	Tyr	Leu	Arg	Lys	Asn	Ile	Ala	Gln	Leu	Gln	Pro		
		770				775					780						
Asp	Met	Glu	Ala	His	Tyr	Pro	Gly	Ala	His	Glu	Glu	Leu	Lys	Leu	Met		
785					790					795					800		
Glu	Thr	Leu	Met	Tyr	Ser	Arg	Pro	Arg	Lys	Val	Leu	Val	Glu	Gln	Thr		
				805					810					815			
Lys	Asn	Glu	Tyr	Phe	Glu	Leu	Lys	Ala	Asn	Leu	His	Ala	Glu	Pro	Asp		
			820					825					830				
Tyr	Leu	Glu	Val	Leu	Glu	Gln	Gln	Thr									
		835					840										

<210> 95  
 <211> 16  
 <212> PRT  
 <213> Homo sapiens

<400> 95  
 Ala Ser Leu Tyr Glu Gln His Met Gly Ala His Glu Glu Leu Lys Leu  
 1 5 10 15

<210> 96  
 <211> 18  
 <212> PRT  
 <213> Homo sapiens

<400> 96  
 Ser Ala Ser Leu Tyr Glu Gln His Met Gly Ala His Glu Glu Leu Lys  
 1 5 10 15  
 Leu Met

<210> 97  
 <211> 28  
 <212> PRT  
 <213> Homo sapiens

<400> 97  
 Thr Thr Glu Arg Pro Ser Ala Ser Leu Tyr Glu Gln His Met Gly Ala  
 1 5 10 15  
 His Glu Glu Leu Lys Leu Met Glu Thr Leu Met Tyr  
 20 25

<210> 98  
 <211> 22  
 <212> PRT  
 <213> Homo sapiens

<400> 98  
 Ile Ile His Ser Leu Met Lys Ser Ile Leu Trp Ser Lys Ala Ser Gly  
 1 5 10 15  
 Arg Gly Arg Arg Glu Glu  
 20

<210> 99  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 99  
 Asn Ile Ile His Ser Leu Met Lys Ser Ile Leu Trp Ser Lys Ala Ser  
 1 5 10 15  
 Gly Arg Gly Arg Arg Glu Glu  
 20

<210> 100  
 <211> 28  
 <212> PRT  
 <213> Homo sapiens

<400> 100  
 Leu Ile Leu Ala Gly Asn Ile Ile His Ser Leu Met Lys Ser Ile Leu  
 1 5 10 15  
 Trp Ser Lys Ala Ser Gly Arg Gly Arg Arg Glu Glu  
 20 25

<210> 101  
 <211> 23  
 <212> PRT  
 <213> Homo sapiens

<400> 101  
 Gly Asn Ile Ile His Ser Leu Met Asn Pro Ser Phe Gly Pro Lys His  
 1 5 10 15  
 Leu Glu Glu Glu Glu Arg  
 20

<210> 102  
 <211> 24

<212> PRT  
 <213> Homo sapiens

<400> 102  
 Ala Gly Asn Ile Ile His Ser Leu Met Asn Pro Ser Phe Gly Pro Lys  
 1 5 10 15  
 His Leu Glu Glu Glu Glu Arg  
 20

<210> 103  
 <211> 29  
 <212> PRT  
 <213> Homo sapiens

<400> 103  
 Arg Lys Leu Ile Leu Ala Gly Asn Ile Ile His Ser Leu Met Asn Pro  
 1 5 10 15  
 Ser Phe Gly Pro Lys His Leu Glu Glu Glu Glu Arg  
 20 25

<210> 104  
 <211> 841  
 <212> PRT  
 <213> Homo sapiens

<400> 104  
 Met Lys Leu Trp Ile His Leu Phe Tyr Ser Ser Leu Leu Ala Cys Ile  
 1 5 10 15  
 Ser Leu His Ser Gln Thr Pro Val Leu Ser Ser Arg Gly Ser Cys Asp  
 20 25 30  
 Ser Leu Cys Asn Cys Glu Glu Lys Asp Gly Thr Met Leu Ile Asn Cys  
 35 40 45  
 Glu Ala Lys Gly Ile Lys Met Val Ser Glu Ile Ser Val Pro Pro Ser  
 50 55 60  
 Arg Pro Phe Gln Leu Ser Leu Leu Asn Asn Gly Leu Thr Met Leu His  
 65 70 75 80  
 Thr Asn Asp Phe Ser Gly Leu Thr Asn Ala Ile Ser Ile His Leu Gly  
 85 90 95  
 Phe Asn Asn Ile Ala Asp Ile Glu Ile Gly Ala Phe Asn Gly Leu Gly  
 100 105 110  
 Leu Leu Lys Gln Leu His Ile Asn His Asn Ser Leu Glu Ile Leu Lys  
 115 120 125  
 Glu Asp Thr Phe His Gly Leu Glu Asn Leu Glu Phe Leu Gln Ala Asp  
 130 135 140  
 Asn Asn Phe Ile Thr Val Ile Glu Pro Ser Ala Phe Ser Lys Leu Asn  
 145 150 155 160  
 Arg Leu Lys Val Leu Ile Leu Asn Asp Asn Ala Ile Glu Ser Leu Pro  
 165 170 175  
 Pro Asn Ile Phe Arg Phe Val Pro Leu Thr His Leu Asp Leu Arg Gly  
 180 185 190  
 Asn Gln Leu Gln Thr Leu Pro Tyr Val Gly Phe Leu Glu His Ile Gly  
 195 200 205  
 Arg Ile Leu Asp Leu Gln Leu Glu Asp Asn Lys Trp Ala Cys Asn Cys  
 210 215 220  
 Asp Leu Leu Gln Leu Lys Thr Trp Leu Glu Asn Met Pro Pro Gln Ser  
 225 230 235 240  
 Ile Ile Gly Asp Val Val Cys Asn Ser Pro Pro Phe Phe Lys Gly Ser  
 245 250 255  
 Ile Leu Ser Arg Leu Lys Lys Glu Ser Ile Cys Pro Thr Pro Pro Val  
 260 265 270  
 Tyr Glu Glu His Glu Asp Pro Ser Gly Ser Leu His Leu Ala Ala Thr  
 275 280 285



Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu			
	290					295					300							
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro			
305					310					315					320			
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys			
				325					330					335				
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile			
			340					345					350					
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu				
	355						360				365							
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Asp	Leu	Val			
	370					375					380							
Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu	Gly	Asn	Asn	Arg	Ile	Glu			
385					390					395					400			
Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu	Thr	Arg	Leu	Gln	Lys	Leu			
				405					410					415				
Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu	Ser	Lys	Gly	Met	Phe	Leu			
			420					425					430					
Gly	Leu	His	Asn	Leu	Glu	Tyr	Leu	Tyr	Leu	Glu	Tyr	Asn	Ala	Ile	Lys			
	435						440					445						
Glu	Ile	Leu	Pro	Gly	Thr	Phe	Asn	Pro	Met	Pro	Lys	Leu	Lys	Val	Leu			
	450					455					460							
Tyr	Leu	Asn	Asn	Asn	Leu	Leu	Gln	Val	Leu	Pro	Pro	His	Ile	Phe	Ser			
465					470					475					480			
Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys	Thr	Asn	Gln	Phe	Thr	His			
				485					490					495				
Leu	Pro	Val	Ser	Asn	Ile	Leu	Asp	Asp	Leu	Asp	Leu	Leu	Thr	Gln	Ile			
			500					505					510					
Asp	Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Ser	Cys	Asp	Leu	Val	Gly	Leu			
	515						520					525						
Gln	Gln	Trp	Ile	Gln	Lys	Leu	Ser	Lys	Asn	Thr	Val	Thr	Asp	Asp	Ile			
	530					535					540							
Leu	Cys	Thr	Ser	Pro	Gly	His	Leu	Asp	Lys	Lys	Glu	Leu	Lys	Ala	Leu			
545					550					555					560			
Asn	Ser	Glu	Ile	Leu	Cys	Pro	Gly	Leu	Val	Asn	Asn	Pro	Ser	Met	Pro			
				565					570					575				
Thr	Gln	Thr	Ser	Tyr	Leu	Met	Val	Thr	Thr	Pro	Ala	Thr	Thr	Thr	Asn			
			580					585					590					
Thr	Ala	Asp	Thr	Ile	Leu	Arg	Ser	Leu	Thr	Asp	Ala	Val	Pro	Leu	Ser			
	595						600					605						
Val	Leu	Ile	Leu	Gly	Leu	Leu	Ile	Met	Phe	Ile	Thr	Ile	Val	Phe	Cys			
	610					615					620							
Ala	Ala	Gly	Ile	Val	Val	Leu	Val	Leu	His	Arg	Arg	Arg	Arg	Tyr	Lys			
625					630					635					640			
Lys	Lys	Gln	Val	Asp	Glu	Gln	Met	Arg	Asp	Asn	Ser	Pro	Val	His	Leu			
				645					650					655				
Gln	Tyr	Ser	Met	Tyr	Gly	His	Lys	Thr	Thr	His	His	Thr	Thr	Glu	Arg			
			660					665					670					
Pro	Ser	Ala	Ser	Leu	Tyr	Glu	Gln	His	Met	Val	Ser	Pro	Met	Val	His			
	675						680					685						
Val	Tyr	Arg	Ser	Pro	Ser	Phe	Gly	Pro	Lys	His	Leu	Glu	Glu	Glu	Glu			
	690					695					700							
Glu	Arg	Asn	Glu	Lys	Glu	Gly	Ser	Asp	Ala	Lys	His	Leu	Gln	Arg	Ser			
705					710					715					720			
Leu	Leu	Glu	Gln	Glu	Asn	His	Ser	Pro	Leu	Thr	Gly	Ser	Asn	Met	Lys			
				725					730					735				
Tyr	Lys	Thr	Thr	Asn	Gln	Ser	Thr	Glu	Phe	Leu	Ser	Phe	Gln	Asp	Ala			
			740					745					750					
Ser	Ser	Leu	Tyr	Arg	Asn	Ile	Leu	Glu	Lys	Glu	Arg	Glu	Leu	Gln	Gln			
	755						760					765						
Leu	Gly	Ile	Thr	Glu	Tyr	Leu	Arg	Lys	Asn	Ile	Ala	Gln	Leu	Gln	Pro			
	770					775					780							
Asp	Met	Glu	Ala	His	Tyr	Pro	Gly	Ala	His	Glu	Glu	Leu	Lys	Leu	Met			
785					790					795					800			

Glu	Thr	Leu	Met	Tyr	Ser	Arg	Pro	Arg	Lys	Val	Leu	Val	Glu	Gln	Thr
				805					810					815	
Lys	Asn	Glu	Tyr	Phe	Glu	Leu	Lys	Ala	Asn	Leu	His	Ala	Glu	Pro	Asp
			820					825					830		
Tyr	Leu	Glu	Val	Leu	Glu	Gln	Gln	Thr							
		835					840								

<210> 105  
 <211> 732  
 <212> PRT  
 <213> Homo sapiens

<400> 105

Met	Lys	Leu	Trp	Ile	His	Leu	Phe	Tyr	Ser	Ser	Leu	Leu	Ala	Cys	Ile
1				5					10					15	
Ser	Leu	His	Ser	Gln	Thr	Pro	Val	Leu	Ser	Ser	Arg	Gly	Ser	Cys	Asp
			20					25					30		
Ser	Leu	Cys	Asn	Cys	Glu	Glu	Lys	Asp	Gly	Thr	Met	Leu	Ile	Asn	Cys
		35					40					45			
Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile	Ser	Val	Pro	Pro	Ser
	50					55					60				
Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly	Leu	Thr	Met	Leu	His
65					70					75					80
Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile	Ser	Ile	His	Leu	Gly
			85						90					95	
Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala	Phe	Asn	Gly	Leu	Gly
			100					105					110		
Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys
		115					120					125			
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp
	130					135					140				
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn
145					150					155					160
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro
			165						170					175	
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly
			180					185					190		
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly
		195					200					205			
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys
	210					215					220				
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser
225					230					235					240
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser
			245						250					255	
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val
			260				265						270		
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr
	275						280					285			
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu
	290					295					300				
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro
305					310					315					320
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys
				325					330					335	
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile
			340					345					350		
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu
	355						360					365			
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Asp	Leu	Val
	370					375					380				
Glu	Tyr	Phe	Thr	Leu	Glu	Met	Leu	His	Leu	Gly	Asn	Asn	Arg	Ile	Glu
385					390					395					400

Val	Leu	Glu	Glu	Gly	Ser	Phe	Met	Asn	Leu	Thr	Arg	Leu	Gln	Lys	Leu	
				405					410					415		
Tyr	Leu	Asn	Gly	Asn	His	Leu	Thr	Lys	Leu	Ser	Lys	Gly	Met	Phe	Leu	
			420					425					430			
Gly	Leu	His	Asn	Leu	Glu	Tyr	Leu	Tyr	Leu	Glu	Tyr	Asn	Ala	Ile	Lys	
		435					440					445				
Glu	Ile	Leu	Pro	Gly	Thr	Phe	Asn	Pro	Met	Pro	Lys	Leu	Lys	Val	Leu	
	450					455					460					
Tyr	Leu	Asn	Asn	Asn	Leu	Gln	Val	Leu	Pro	Pro	His	Ile	Phe	Ser		
465					470				475					480		
Gly	Val	Pro	Leu	Thr	Lys	Val	Asn	Leu	Lys	Thr	Asn	Gln	Phe	Thr	His	
				485				490						495		
Leu	Pro	Val	Ser	Asn	Ile	Leu	Asp	Asp	Leu	Asp	Leu	Leu	Thr	Gln	Ile	
			500					505					510			
Asp	Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Ser	Cys	Asp	Leu	Val	Gly	Leu	
	515						520					525				
Gln	Gln	Trp	Ile	Gln	Lys	Leu	Ser	Lys	Asn	Thr	Val	Thr	Asp	Asp	Ile	
	530					535					540					
Leu	Cys	Thr	Ser	Pro	Gly	His	Leu	Asp	Lys	Lys	Glu	Leu	Lys	Ala	Leu	
545					550				555						560	
Asn	Ser	Glu	Ile	Leu	Cys	Pro	Gly	Leu	Val	Asn	Asn	Pro	Ser	Met	Pro	
				565				570						575		
Thr	Gln	Thr	Ser	Tyr	Leu	Met	Val	Thr	Thr	Pro	Ala	Thr	Thr	Thr	Asn	
			580					585					590			
Thr	Ala	Asp	Thr	Ile	Leu	Arg	Ser	Leu	Thr	Asp	Ala	Val	Pro	Leu	Ser	
	595						600					605				
Val	Leu	Ile	Leu	Gly	Leu	Leu	Ile	Met	Phe	Ile	Thr	Ile	Val	Phe	Cys	
	610					615					620					
Ala	Ala	Gly	Ile	Val	Val	Leu	Val	Leu	His	Arg	Arg	Arg	Arg	Tyr	Lys	
625					630				635						640	
Lys	Lys	Gln	Val	Asp	Glu	Gln	Met	Arg	Asp	Asn	Ser	Pro	Val	His	Leu	
				645				650						655		
Gln	Tyr	Ser	Met	Tyr	Gly	His	Lys	Thr	Thr	His	His	Thr	Thr	Glu	Arg	
		660						665					670			
Pro	Ser	Ala	Ser	Leu	Tyr	Glu	Gln	His	Met	Gly	Ala	His	Glu	Glu	Leu	
		675					680					685				
Lys	Leu	Met	Glu	Thr	Leu	Met	Tyr	Ser	Arg	Pro	Arg	Lys	Val	Leu	Val	
	690					695					700					
Glu	Gln	Thr	Lys	Asn	Glu	Tyr	Phe	Glu	Leu	Lys	Ala	Asn	Leu	His	Ala	
705					710				715						720	
Glu	Pro	Asp	Tyr	Leu	Glu	Val	Leu	Glu	Gln	Gln	Thr					
				725					730							

<210> 106  
 <211> 395  
 <212> PRT  
 <213> Homo sapiens

<400> 106

Met	Lys	Leu	Trp	Ile	His	Leu	Phe	Tyr	Ser	Ser	Leu	Leu	Ala	Cys	Ile	
1				5					10					15		
Ser	Leu	His	Ser	Gln	Thr	Pro	Val	Leu	Ser	Ser	Arg	Gly	Ser	Cys	Asp	
			20					25					30			
Ser	Leu	Cys	Asn	Cys	Glu	Glu	Lys	Asp	Gly	Thr	Met	Leu	Ile	Asn	Cys	
		35					40					45				
Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile	Ser	Val	Pro	Pro	Ser	
	50					55					60					
Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly	Leu	Thr	Met	Leu	His	
65					70					75					80	
Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile	Ser	Ile	His	Leu	Gly	
			85						90					95		
Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala	Phe	Asn	Gly	Leu	Gly	
			100					105						110		

Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys
		115					120					125			
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp
		130					135					140			
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn
					150					155					160
Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro
			165						170						175
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly
			180						185						190
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly
		195						200				205			
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys
		210					215					220			
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser
					230					235					240
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser
				245					250						255
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val
			260					265							270
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr
			275					280					285		
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu
		290				295					300				
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro
					310					315					320
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys
				325					330						335
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile
			340					345					350		
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu
			355					360				365			
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Lys	Ser	Ile	Leu	Trp
		370				375					380				
Ser	Lys	Ala	Ser	Gly	Arg	Gly	Arg	Arg	Glu	Glu					
					390					395					

<210> 107  
 <211> 529  
 <212> PRT  
 <213> Homo sapiens

<400> 107

Met	Lys	Leu	Trp	Ile	His	Leu	Phe	Tyr	Ser	Ser	Leu	Leu	Ala	Cys	Ile
1				5					10					15	
Ser	Leu	His	Ser	Gln	Thr	Pro	Val	Leu	Ser	Ser	Arg	Gly	Ser	Cys	Asp
			20					25					30		
Ser	Leu	Cys	Asn	Cys	Glu	Glu	Lys	Asp	Gly	Thr	Met	Leu	Ile	Asn	Cys
		35					40					45			
Glu	Ala	Lys	Gly	Ile	Lys	Met	Val	Ser	Glu	Ile	Ser	Val	Pro	Pro	Ser
	50					55					60				
Arg	Pro	Phe	Gln	Leu	Ser	Leu	Leu	Asn	Asn	Gly	Leu	Thr	Met	Leu	His
				70						75					80
Thr	Asn	Asp	Phe	Ser	Gly	Leu	Thr	Asn	Ala	Ile	Ser	Ile	His	Leu	Gly
			85						90					95	
Phe	Asn	Asn	Ile	Ala	Asp	Ile	Glu	Ile	Gly	Ala	Phe	Asn	Gly	Leu	Gly
			100					105					110		
Leu	Leu	Lys	Gln	Leu	His	Ile	Asn	His	Asn	Ser	Leu	Glu	Ile	Leu	Lys
		115					120					125			
Glu	Asp	Thr	Phe	His	Gly	Leu	Glu	Asn	Leu	Glu	Phe	Leu	Gln	Ala	Asp
		130					135				140				
Asn	Asn	Phe	Ile	Thr	Val	Ile	Glu	Pro	Ser	Ala	Phe	Ser	Lys	Leu	Asn
					150					155					160

Arg	Leu	Lys	Val	Leu	Ile	Leu	Asn	Asp	Asn	Ala	Ile	Glu	Ser	Leu	Pro	
				165					170						175	
Pro	Asn	Ile	Phe	Arg	Phe	Val	Pro	Leu	Thr	His	Leu	Asp	Leu	Arg	Gly	
			180					185					190			
Asn	Gln	Leu	Gln	Thr	Leu	Pro	Tyr	Val	Gly	Phe	Leu	Glu	His	Ile	Gly	
		195					200					205				
Arg	Ile	Leu	Asp	Leu	Gln	Leu	Glu	Asp	Asn	Lys	Trp	Ala	Cys	Asn	Cys	
	210					215					220					
Asp	Leu	Leu	Gln	Leu	Lys	Thr	Trp	Leu	Glu	Asn	Met	Pro	Pro	Gln	Ser	
225					230					235					240	
Ile	Ile	Gly	Asp	Val	Val	Cys	Asn	Ser	Pro	Pro	Phe	Phe	Lys	Gly	Ser	
			245						250					255		
Ile	Leu	Ser	Arg	Leu	Lys	Lys	Glu	Ser	Ile	Cys	Pro	Thr	Pro	Pro	Val	
			260					265					270			
Tyr	Glu	Glu	His	Glu	Asp	Pro	Ser	Gly	Ser	Leu	His	Leu	Ala	Ala	Thr	
	275						280					285				
Ser	Ser	Ile	Asn	Asp	Ser	Arg	Met	Ser	Thr	Lys	Thr	Thr	Ser	Ile	Leu	
	290					295					300					
Lys	Leu	Pro	Thr	Lys	Ala	Pro	Gly	Leu	Ile	Pro	Tyr	Ile	Thr	Lys	Pro	
305					310					315					320	
Ser	Thr	Gln	Leu	Pro	Gly	Pro	Tyr	Cys	Pro	Ile	Pro	Cys	Asn	Cys	Lys	
			325						330					335		
Val	Leu	Ser	Pro	Ser	Gly	Leu	Leu	Ile	His	Cys	Gln	Glu	Arg	Asn	Ile	
			340					345					350			
Glu	Ser	Leu	Ser	Asp	Leu	Arg	Pro	Pro	Pro	Gln	Asn	Pro	Arg	Lys	Leu	
	355						360					365				
Ile	Leu	Ala	Gly	Asn	Ile	Ile	His	Ser	Leu	Met	Asn	Pro	Ser	Phe	Gly	
	370					375					380					
Pro	Lys	His	Leu	Glu	Glu	Glu	Glu	Glu	Arg	Asn	Glu	Lys	Glu	Gly	Ser	
385					390					395					400	
Asp	Ala	Lys	His	Leu	Gln	Arg	Ser	Leu	Leu	Glu	Gln	Glu	Asn	His	Ser	
			405						410					415		
Pro	Leu	Thr	Gly	Ser	Asn	Met	Lys	Tyr	Lys	Thr	Thr	Asn	Gln	Ser	Thr	
		420						425					430			
Glu	Phe	Leu	Ser	Phe	Gln	Asp	Ala	Ser	Ser	Leu	Tyr	Arg	Asn	Ile	Leu	
	435						440					445				
Glu	Lys	Glu	Arg	Glu	Leu	Gln	Gln	Leu	Gly	Ile	Thr	Glu	Tyr	Leu	Arg	
	450					455					460					
Lys	Asn	Ile	Ala	Gln	Leu	Gln	Pro	Asp	Met	Glu	Ala	His	Tyr	Pro	Gly	
465					470					475					480	
Ala	His	Glu	Glu	Leu	Lys	Leu	Met	Glu	Thr	Leu	Met	Tyr	Ser	Arg	Pro	
			485						490					495		
Arg	Lys	Val	Leu	Val	Glu	Gln	Thr	Lys	Asn	Glu	Tyr	Phe	Glu	Leu	Lys	
		500						505					510			
Ala	Asn	Leu	His	Ala	Glu	Pro	Asp	Tyr	Leu	Glu	Val	Leu	Glu	Gln	Gln	
		515					520					525				
Thr																

<210> 108

<211> 347

<212> DNA

<213> Homo sapiens

<400> 108

```

caaaactgcag gagtcaggag ttggcctggt ggcgcctca cagagcctgt ccatcacatg 60
caccgtctca ggattctcat tgaccggcta tgggtgtaaac tgggttcgcc agcctccagg 120
aaagggtctg ggggtggctgg gaatgatttg gggcgatgga agcacagatt atacttcagc 180
tctccaatcc agactgagca tcaggaagga caattcaaga gccaaacttt cttaaaaaat 240
aacagtctgc aaactgatga cacagccagg tattactgtg ccagagatga agggagggga 300
ctctgtttga ttgctggggc caagggacca cggtcaccgt ctctctca 347

```

<210> 109

<211> 115  
 <212> PRT  
 <213> Homo sapiens

<400> 109  
 Gln Thr Ala Gly Val Arg Ser Trp Pro Gly Gly Ala Leu Thr Glu Pro  
 1 5 10 15  
 Val His His Met His Arg Leu Arg Ile Leu Ile Asp Arg Leu Trp Cys  
 20 25 30  
 Lys Leu Gly Ser Pro Ala Ser Arg Lys Gly Ser Gly Val Ala Gly Asn  
 35 40 45  
 Asp Leu Gly Arg Trp Lys His Arg Leu Tyr Phe Ser Ser Pro Ile Gln  
 50 55 60  
 Thr Glu His Gln Glu Gly Gln Phe Lys Ser Gln Thr Phe Leu Lys Asn  
 65 70 75 80  
 Asn Ser Leu Gln Thr Asp Asp Thr Ala Arg Tyr Tyr Cys Ala Arg Asp  
 85 90 95  
 Glu Gly Arg Gly Leu Cys Leu Ile Ala Gly Ala Lys Gly Pro Arg Ser  
 100 105 110  
 Pro Ser Pro  
 115

<210> 110  
 <211> 330  
 <212> DNA  
 <213> Homo sapiens

<400> 110  
 gacattcagc tgaccagtc tcctgcttcc ttagctgtat ctctggggca gagggccacc 60  
 atctcataca gggccagcaa aagtgtcagt acatctggct atagttatat gcactggaac 120  
 caacagaaac caggacagcc acccagactc ctcattctatc ttgtatccaa cctagaatct 180  
 ggggtccctg ccagggttcag tggcagtggg tctgggacag acttcaccct caacatccat 240  
 cctgtggagg aggaggatgc tgcaacctat tactgtcagc acattaggga gcttacacgt 300  
 tcggaggggg gaccaagctg gagatctaac 330

<210> 111  
 <211> 110  
 <212> PRT  
 <213> Homo sapiens

<400> 111  
 Asp Ile Gln Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly  
 1 5 10 15  
 Gln Arg Ala Thr Ile Ser Tyr Arg Ala Ser Lys Ser Val Ser Thr Ser  
 20 25 30  
 Gly Tyr Ser Tyr Met His Trp Asn Gln Gln Lys Pro Gly Gln Pro Pro  
 35 40 45  
 Arg Leu Leu Ile Tyr Leu Val Ser Asn Leu Glu Ser Gly Val Pro Ala  
 50 55 60  
 Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Asn Ile His  
 65 70 75 80  
 Pro Val Glu Glu Glu Asp Ala Ala Thr Tyr Tyr Cys Gln His Ile Arg  
 85 90 95  
 Glu Leu Thr Arg Ser Glu Gly Gly Pro Ser Trp Arg Ser Asn  
 100 105 110

<210> 112  
 <211> 115  
 <212> PRT  
 <213> Homo sapiens

<400> 112

Gln	Thr	Ala	Gly	Val	Arg	Ser	Trp	Pro	Gly	Gly	Ala	Leu	Thr	Glu	Pro
1				5					10					15	
Val	His	His	Met	His	Arg	Leu	Arg	Ile	Leu	Ile	Asp	Arg	Leu	Trp	Cys
			20					25					30		
Lys	Leu	Gly	Ser	Pro	Ala	Ser	Arg	Lys	Gly	Ser	Gly	Val	Ala	Gly	Asn
		35					40					45			
Asp	Leu	Gly	Arg	Trp	Lys	His	Arg	Leu	Tyr	Phe	Ser	Ser	Pro	Ile	Gln
	50					55					60				
Thr	Glu	His	Gln	Glu	Gly	Gln	Phe	Lys	Ser	Gln	Thr	Phe	Leu	Lys	Asn
65					70					75					80
Asn	Ser	Leu	Gln	Thr	Asp	Asp	Thr	Ala	Arg	Tyr	Tyr	Cys	Ala	Arg	Asp
				85					90					95	
Glu	Gly	Arg	Gly	Leu	Cys	Leu	Ile	Ala	Gly	Ala	Lys	Gly	Pro	Arg	Ser
			100					105					110		
Pro	Ser	Pro													
		115													

<210> 113

<211> 110

<212> PRT

<213> Homo sapiens

<400> 113

Asp	Ile	Gln	Leu	Thr	Gln	Ser	Pro	Ala	Ser	Leu	Ala	Val	Ser	Leu	Gly
1				5					10					15	
Gln	Arg	Ala	Thr	Ile	Ser	Tyr	Arg	Ala	Ser	Lys	Ser	Val	Ser	Thr	Ser
			20					25					30		
Gly	Tyr	Ser	Tyr	Met	His	Trp	Asn	Gln	Gln	Lys	Pro	Gly	Gln	Pro	Pro
		35					40					45			
Arg	Leu	Leu	Ile	Tyr	Leu	Val	Ser	Asn	Leu	Glu	Ser	Gly	Val	Pro	Ala
	50					55					60				
Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Thr	Leu	Asn	Ile	His
65					70					75					80
Pro	Val	Glu	Glu	Glu	Asp	Ala	Ala	Thr	Tyr	Tyr	Cys	Gln	His	Ile	Arg
				85					90					95	
Glu	Leu	Thr	Arg	Ser	Glu	Gly	Gly	Pro	Ser	Trp	Arg	Ser	Asn		
			100					105					110		